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PROGRESS REPORT FOR 1994 ON SPECIFIC UNIDO ACTIVITIES

Submitted by the Director-General

Summary

Updates and supplements, as of 31 August 1994, information provided in the Annual Report of UNIDO 1993 (IDB.12/2) concerning programmes and activities that are the subject of sub-items 4 (a) to (g) of the provisional agenda of the current session as well as activities related to the industrialization of the least developed countries.

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Introduction

1. The present document provides progress reports for 1994 on the activities and programmes which are the subject of sub-items 4 (a) to (g) of the provisional agenda of the current session of the Board. In compliance with paragraph (f) of Board decision IDB.12/Dec.6, a chapter has also been included on progress made in the implementation of that decision and of General Conference resolution GC.5/Res.16 concerning the industrialization of the least developed countries. For the sake of transparency the presentation of each progress report is based on the latest mandates on the respective subject, in particular those emanating from the relevant resolutions adopted by the General Conference at its fifth session.

I. HUMAN RESOURCE DEVELOPMENT

2. General Conference resolution GC.5/Res.2 highlighted the vital importance of the development of human resources for accelerated industrialization of developing countries as well as the coordination of the various human resource development-related activities and programmes on the basis of an integrated thematic approach based on employment and manpower development, applied science and technology and social issues. Indeed, the development of human resources for industry has been recognized and emphasized as one of the five development objectives of the restructured UNIDO, and the UNIDO integrated approach has stressed its linkage with the transfer of technology, the development of managerial capability and capacity-building for national execution.

3. An important feature of the programme is coordination and close cooperation with Governments, the private sector, associations of industrialists/entrepreneurs, chambers of commerce and other United Nations organizations such as the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Labour

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Organisation (ILO) and the Food and Agriculture Organization of the United Nations (FAO).

4. The mandate of the UNIDO industrial human resource development programme and activities stems from the terms of reference of the restructured UNIDO (UNIDO/DG/B.175) as well as the revised draft medium-term plan, 1996-2001 (IDB.13/19). Based on the new orientation and established priorities of UNIDO, the Human Resource Development Branch, as the focal point of the Organization for the human resource development programme, has concentrated and intensified its activities especially as of January 1994 on elaborating programmes and projects for the promotion of relevant policies and strategies and establishing integrated human resource development capabilities, capacities and systems at enterprise, sectoral, national and regional levels. These efforts were supported through the design and implementation of relevant training activities, especially for middle and senior level management and technical personnel engaged in the manufacturing industry and industry-related priority areas such as environment. While there are increased efforts to refocus its activities with emphasis on building capabilities and integrated systems, the human resource development programme faces great resource constraints to develop and implement a programme and related activities that would meet at least the priority needs of the developing countries and other countries with economies in transition as also established by the policy-making organs of the Organization.

A. Human resource development policies, strategies and methodologies

5. To enhance human resource development capabilities and capacities for sustainable industrial development, increased attention has to be given to policies and strategies leading to effective training activities to narrow the gap between the labour skill supply and assessed needs of industry. The role of the industrial human resource development programme is to review a wide range of activities related to the formulation of policies and strategies for human resource development. Thus, direct support was provided to developing countries (such as Jordan), within the framework of technical support at the programme level (TSS-1) and the United Nations Development Programme (UNDP) country programme in reviewing policies, strategies and planning for human resource development for industry, including the necessary linkage between education systems, applied science and research, and development, transfer and management of technology.

6. At the regional and national levels, UNIDO aimed at providing government, policy makers and industrial personnel involved in industrial development with advice, recommendations and guidelines to review and develop comprehensive policies, strategies and plans of action to improve knowledge, skills and know-how required for sustainable industrial development. At the institutional level, the aim was to strengthen and establish local training institutions/centres with appropriate facilities for training of consultants/trainers as well as production of training packages, manuals and documentation on industrial priority areas. At the enterprise level, UNIDO aimed at developing specific training programmes and activities to upgrade and update skills and effectiveness in such priority areas as selection of technology, management, entrepreneurship development, marketing, production management, repair and maintenance, quality management and personnel management issues, as described further on.

B. Manpower development and employment

7. The shortage of skilled manpower and managerial capabilities is a major handicap in promoting and sustaining industrial development efforts in developing countries. The need for qualified industrial manpower is continually growing, and the existing training infrastructure does not always meet that need. This shortage of technical, professional and managerial skills is aggravated by an educational system not sufficiently geared towards productive activities. In many developing countries, trained people can find no employment, while at the same time jobs exist for which no local skills are to be found. This situation will prevail as long as there is a lack of systematic forward-looking industrial human resource development policies and programming, adequate training facilities and linkages between the educational and training system, manpower development, employment, industrial development and restructuring. In this context, the UNIDO integrated approach on human resource development for industry is giving greater attention to manpower development and employment by developing and including this component in all technical assistance programmes and projects. The emphasis is on flexibility and the creation of a broad-based productive capability as well as an environment for the growth of new entrepreneurial skills to take advantage of emerging economic opportunities. The development of appropriate skills for sustainable industrial development continues to be carefully assessed in order to assure the necessary adjustment in time to suit the changes in the markets as well as the rapid changing of technology and other factors.

C. Managerial training and human resource development in the area of technology and management, quality control and productive techniques

8. The new orientation of UNIDO is to develop a sustainable industrial management capability in developing countries, including the necessary linkages between human resource development and transfer, development and management of technology with special emphasis on new production methods and techniques to improve the production quality and the productivity of the industrial sector. For that purpose a series of managerial training activities and programmes was developed and implemented in the reporting period. For example, in the field of building materials and within the framework of North-South cooperation, group training programmes were implemented with the French Government for senior specialists from Latin America, at which a managerial training approach focusing on the improvement of quality and productivity was introduced to meet the challenges posed by new technologies. In cooperation with the Royal Scientific Society of Jordan, UNIDO has established a basic software development system for training in the cement sector, featuring the first computer-based training material package on condition monitoring. To improve the quality and the productivity of the agro-food processing sector, preparatory assistance on human resource development for a post-apartheid South Africa has

been undertaken and two issue papers on entrepreneurial and managerial skill development for sustainable industry in the Southern African region as well as on integration of women have been prepared to be submitted to the international donors' conference on human resource development for a post-apartheid South Africa, scheduled for October 1994.

9. In cooperation with other United Nations agencies, studies have been undertaken on the assessment of training needs for the establishment of integrated human resource strategies and systems for the development of technical and managerial skills in the Caribbean subregion, Namibia, Swaziland and Turkey. As part of UNIDO technical assistance to the Palestinian people and as a follow-up to previous training activities, a five-week managerial training programme at UNIDO Headquarters for senior entrepreneurs on entrepreneurship and business development focused on the development of managerial skills in the field of small- and medium-scale industry at institutional and enterprise levels.

10. In-plant and other activities undertaken in cooperation with Japan aim at various aspects of transferring Japanese managerial techniques and know-how, primarily to other Asian countries. These activities focus on modern production management techniques, quality improvement of industrial products and seminars on technology management and industrial development.

11. A new programme on biotechnology business management development for developing countries has been initiated to facilitate the transfer of biotechnology applications from R and D providers to commercial markets. The target groups include administrators and scientists as well as business managers, while cooperating partners include business management schools and technology institutions.

D. Training on industrial information and transfer of technology

12. The development and application of new technologies raises major issues for the developing countries in respect of scientific and technological education and training. Industrial information training and the development of basic capabilities for the transfer and the adaptation of technology are a prerequisite for any successful industrialization effort. The main activities of UNIDO technical cooperation programmes on industrial information and transfer of technology are thus closely linked to the programme of human resource development, as reflected in the information contained in chapter II of the present document (paras. 53, 61 and 62 are particularly relevant).

13. In this context, a capacity-building programme on technology transfer negotiations (chap. II, para. 43 below) features training courses on technology acquisition and negotiation in developing countries. The programme involves a systematic build-up and creation of critical mass, in the form of national institutions and experts having the capacity to implement national training courses on technology transfer negotiations in a sustained and self-sufficient manner. Thus, this programme addresses not only entrepreneurs and professionals dealing with technology acquisition and negotiation but potential trainers of negotiators as well.

14. A first training programme on information resources management in food enterprises aimed at improving information and technology management was conducted at Seoul, Republic of Korea. A training programme was also organized within the framework of manufacturing of agricultural tools, implements and farm machinery. The programme includes the transfer of know-how to rural workshops in Uganda for the production of basic agricultural implements and upgrading the capability of rural artisans (Jua Kalis) in metal fabrication through the establishment of a pilot workshop and foundry.

E. Strengthening of institutions in developing countries for national execution of development cooperation projects/programmes

15. At the institutional level, UNIDO strategy in human resource development has been to promote a greater use of existing training institutions in developing countries, while the same time increasing the level of their performance in order to enable them to design and implement human resource development programmes so as to enhance their capacity for national execution of development cooperation projects. This objective was achieved through training of trainers, training for managers of training institutions, production of training material and curricula development, as well as the establishment of network systems and twinning arrangements among these institutions in developing and developed countries, as illustrated by the following examples.

16. In order to strengthen the training capacities and capabilities of the Indian Institute for Auto Parts Technology, a programme of technical cooperation and training in the upgrading of design and process technology was conducted to introduce total quality management in the Indian automotive parts manufacturing industry. Also in India, a regional workshop on quality management and ISO 9000 in software development held at New Delhi aimed at strengthening the training capacities and consultancy services of institutions and companies in ISO 9000 certification by exposing participants from the region to the Indian experience.

17. To promote pharmaceutical products of internationally accepted high quality, a pharmaceutical technology service centre was established with UNDP/UNIDO assistance at the Faculty of Pharmaceutical Sciences of Chulalongkorn University, Bangkok, Thailand, to provide support to the national drug regulatory and quality control authorities as well as to the industry. The Centre is responsible for the training of personnel at all levels in the pharmaceutical industry in current good manufacturing practices and quality assurance. Discussions are under way concerning the possibility of expanding the services of the Centre to other countries in the region, as well as its scope of activity to provide an independent testing facility to identify suspected substandard quality and counterfeit pharmaceutical products.

18. Through its regional Africa leather programme UNIDO is assisting in the establishment or upgrading of three training production centres for the purpose of improving footwear training and development capabilities. These centres are

located in Kenya, Sudan and Zimbabwe. UNIDO is also strengthening the National Metallurgical Development Centre of Nigeria by upgrading its technical management skills with the aim of building up an adequate research and development facility for the Nigerian mineral-processing and metallurgical industry.

19. Recent UNIDO technical cooperation with the Hungarian Quality Development Centre for Industry and Trade has included the preparation of textbooks and training course scripts about the practical application of enterprise-level quality management and quality control techniques and the establishment of a database on literature and research on relevant industrial applications.

20. While all activities aimed at developing human resources in developing countries will ultimately contribute to enhancing the capacity of those countries for national execution of development cooperation projects, special mention may be made of the workshops on privatization conducted for African least developed countries (LDCs) (chap. VIII, para. 213) and the designation of national biotechnology institutes as affiliated centres to the International Centre for Genetic Engineering and Biotechnology (ICGEB) (Annual Report of UNIDO, 1993 (IDB.12/2, chap. IV, para. 53)).

F. Assessment of changing skill requirements and strengthening the capacities of industry

21. The importance accorded the assessment of changing skill requirements is reflected in the specific inclusion of that subject in General Conference resolution GC.5/Res.2. While assessment is clearly a prerequisite to the initiation of any training programme, specific activities include the regional analyses of the participation of women in manufacturing currently being undertaken in preparation for the Fourth World Conference on Women (para. 195 below) and inputs to the first meeting of the Conference of African Ministers Responsible for Human Development.

G. Other technical and managerial training activities

22. An example of the ways in which elements related to human resource development are incorporated into different UNIDO activities is the recently-established Biosafety Information Network and Advisory Service (BINAS) (IDB.12/2, chap. IV, para. 54), which focuses on assisting developing countries in the development of guidelines and regulations and in their implementation through the establishment of national and institutional biosafety committees. In addition to the technical cooperation aspects of BINAS, a comprehensive training programme on biosafety aims at upgrading human resources in order to build the capabilities of the committees.

23. Among workshops conducted in different subsectors, one held recently at Havana, Cuba, on the industrial utilization of medicinal and aromatic plants was the first workshop on utilization of natural products in the pharmaceutical industry to train Spanish-speaking scientists. Co-sponsored with the Pan American Health Organization and Programa Iberoamericano de Ciencia y Tecnologia para el Desarrollo, in collaboration with the Government of Cuba and the Centre for Research and Development of Medical Plants, the workshop was attended by 16 scientists from 13 countries.

24. The relevant resource allocation component in technical cooperation projects continued to be the main source of financing for fellowships and study tours. To this extent, fellowships in different aspects of maintenance management and quality control have been organized to establish preventive maintenance systems to increase the productivity of Philippines industries.

25. A two-week study tour for a manager of the National Metallurgical Development Centre of Nigeria is expected to facilitate the development of a concrete plan of action for improving human resource development at the Centre. Three Indian nationals undertook a study tour to Australia and Brazil in the field of nickel extraction, ammonia leaching and plant design. Two Mexican specialists undertook a study tour to institutions in Brazil, Canada and the United States of America involved in the design and development of mobile air control stations. Two national plant managers visited lead and zinc smelters operating with low emissions in Germany and the United Kingdom of Great Britain and Northern Ireland in order to assist the Romanian Ministry of Industry to establish cleaner production in two polluting plants.

26. Within the framework of a demonstration plant in China for oxygen pulping and bleaching of non-woody fibrous raw materials, a study tour for two fellows is being organized at the Ralta mill in Egypt and for four fellows at Hamburg University, Germany, and North Carolina State University, United States of America. A further study tour in Europe and the United States of America will be organized for five fellows to collect updated information on equipment and production of chlorine-free bleached pulp.

27. Four scientists from Bhutan were trained at the National Research Institute in the United Kingdom of Great Britain and Northern Ireland in methods of propagation, processing and quality control of essential oils. Six Nigerian fellowship holders were trained for six weeks in a leading Romanian research institute in the field of metallurgy. A study tour to Morocco on the private sector and its support institutions was organized for the Secretary-General of Industry and the Director of Handicrafts of Niger, with a follow-up study tour to take place later in 1994. The objective is to learn ways and means of promoting private national and foreign investments in the industrial and handicrafts sector.

H. Investment promotion and feasibility studies

28. Feasibility studies and investment promotion activities continue to play an important part in involving local consulting firms in industrial development and thus strengthening their capability to train national experts engaged in those activities in developing countries. UNIDO organized several training programmes covering different aspects of investment project preparation and appraisal and in computer applications in this field, using COMFAR software (UNIDO Computer Model for Feasibility Analysis and Reporting). Efforts to improve the quality of pre-investment studies have brought visible results since the publication of the UNIDO Manual for the Preparation of

Industrial Feasibility Studies (ID/372), which is also used as a training material. The COMFAR software, recognized world-wide, has helped in the training of those developing country nationals involved in the preparation and appraisal of pre-investment studies and has become a permanent feature of the UNIDO training programmes. Specialized seminars continued to be offered in areas such as market analysis for investment projects, economic cost-benefit analysis and appraisal of investment projects for bankers. New specific training materials are being developed, tested, revised and published (preparation and appraisal of small business projects, practical approach to investment project financing, evaluation of investment projects by "effects method").

29. A training programme on industrial project preparation and appraisal with special emphasis on human resource development was organized at Ahmedabad, India, for participants from African and Asian countries. A workshop on appraisal of industrial investment projects and COMFAR for professional staff from Nigerian investment banks responsible for industrial investment project preparation or appraisal was organized at UNIDO Headquarters. Romanian government officials and specialists from designing/consulting companies and banks were also trained in investment feasibility analysis and the use of COMFAR at a seminar conducted at Bucharest.

I. Special needs of the least developed countries

30. In developing programmes and projects on human resource development for the least developed countries (LDCs), preference is given as much as possible to the regional approach, taking into consideration common interests in the industrialization process and follow-up action to the Substantial New Programme of Action for the LDCs. The Industrial Action Programme for the LDCs adopted by the General Conference gives new key elements for the successful regeneration of industry, including special incentives for industries strengthening domestic linkages, and improved management capabilities and vocational training.

31. That human resource development is accorded high priority in the context of activities in favour of LDCs is demonstrated in chapter VIII of the present document. Among numerous examples of projects focusing on or including a major human resource development component are the ministerial meeting on private sector development in Nepal (chap. VIII, para. 214), privatization workshops in Guinea-Bissau and the United Republic of Tanzania (para. 213) and the industrial promotion workshop in Ethiopia (para. 216).

J. Human resource development and social development

32. Industrial development can be sustainable only to the extent that it is human-centred. This leads inexorably to the belief that new and imaginative ways must be found to respond to such common challenges as the persistence of poverty and wide disparity in the quality of life, high levels of unemployment and misgivings about environmental degradation and pollution. Accordingly, substantial inputs were provided to the Conference of African Ministers Responsible for Human Development held at Addis Ababa, Ethiopia, in January 1994, as a regional preparatory meeting for the World Summit for Social Development to be held at Copenhagen, Denmark, in March 1995.

33. The regional studies preparatory to the Fourth World Conference on Women (para. 21) include an assessment of the human resource base for industry, with a view to proposing strategies and measures to increase and strengthen the participation of women in industry, taking into consideration changing skill requirements. To a very large extent, projects for the integration of women in industrial development have included activities related to human resource development, as reflected in chapter VII.A of the present document.

K. Human resource development and environmental protection and energy constraints

34. Enhancing environmental awareness is a major concern in many human resource development programmes and training activities and accordingly technical cooperation programmes and projects in the field of environment and energy include significant training activities. Production process and equipment design, technology selection and adaptation for environmental protection and energy conservation require a high degree of local technical and managerial skills and know-how for which human resource development plays a key role. An example of relevant UNIDO activities is a workshop on modern techniques for water and wastewater treatment held at Melbourne and Sydney, Australia, where participants from Asia received an overview of modern technologies for water and wastewater treatment.

35. In the Democratic People's Republic of Korea, a programme of training activities on choice and adaptation of technologies for the application of new and renewable sources of energy aims at familiarizing nationals with the state-of-the-art in solar thermal, wind and biomass application for generation of electrical and thermal energy as well as biogas. Group training in the identification and evaluation of energy conservation measures focusing on economic evaluation of energy conservation opportunities was held at the Middle East Technical University of Ankara, Turkey.

36. Under the UNIDO-Czech Republic Joint Programme a training course on industrial energy auditing provided an introduction to energy management with emphasis on key topics for non-metallic industries. Both of a theoretical and practical nature, the course is intended mainly for technical managers, engineers, advanced technicians and other personnel involved in optimization of kiln, dryer and boiler operation.

L. Human resource development and cooperation among developing countries

37. During the reporting period, economic and technical cooperation among developing countries (ECDC/TCDC) was an important element in many human resource development activities. Recent activities included a workshop conducted in Yogyakarta, Indonesia, for 16 participants from Africa, Asia and Latin America, which served as a useful tool for upgrading awareness in sugar and sugar by-product diversification and for promoting cooperation among enterprises in developing countries. The training programmes in cement, food processing,

medicinal plants and essential oils, iron and steel, small-scale foundry, sugar production technologies and textile industries carried out in a number of developing countries and designed mainly for least developed and African countries continue to be among the major activities developed. A study for four African countries (Ethiopia, Kenya, Uganda and the United Republic of Tanzania) will cover training needs in the fisheries industry aimed at developing training facilities (programmes, opportunities, curricula, facilities, courses in fish processing). The study will recommend measures to reinforce national training programmes and pave the way for future economic and technical cooperation among developing countries in this area.

38. Under the aegis of RENPAP (Regional Network on Pesticides Production and Information in Asia and the Pacific), a workshop on ecotoxicology was carried out at Islamabad, Pakistan in cooperation with Farmer-centred Agricultural Resource Management (FARM). Held within the framework of joint activities with FAO and UNDP, the workshop was carried out for 15 Asian countries on various aspects related to ecotoxicology of toxic industrial chemicals such as pesticides.

39. The future orientation of ECDC/TCDC activities also features a strong emphasis on human resource development, as evidenced in the report on international industrial consultations submitted under item 7 (IDB.13/16, paras. 65 and 67).

II. DEVELOPMENT AND TRANSFER OF TECHNOLOGY

40. The UNIDO technology programme, in line with General Conference resolution GC.5/Res.3, continued and enhanced its effort to promote the flows of technology to developing countries; to develop, use and strengthen the indigenous scientific and technical capacity; to implement technology management programmes; to monitor, evaluate and promote new and emerging technologies of interest to developing countries; to examine constraints in the access and transfer of technology; and to provide information services to industry. The operational arm of UNIDO implements programmes and projects dealing with the development and transfer of technologies to developing countries in the agro-based, chemical, engineering and metallurgical sectors. These operational activities aim at transferring know-how to developing countries in order to enhance their capacities to exercise the most appropriate choice of technology and maximize operational efficiency; improving product quality and enhancing product diversification and development; promoting transfer of cleaner technologies, safer use of technologies and products, including mitigation of subsector-specific adverse environmental effects and waste recycling; and enhancing indigenous industrial capacities through training and strengthening of national institutions. While the Annual Report of UNIDO, 1993 (IDB.12/2, chaps. IV.C and V.A) summarizes the overall efforts, the present text responds to the request of the General Conference and is confined to those programmes and activities directly related to the elements referred to in resolution GC.5/Res.3.

A. Increase of technology flows to developing countries

41. One of UNIDO's highly visible promotional tools is the Techmart (IDB.12/2, chap. IV, para. 43; GC.5/10-IDB.11/11, para. 127). As a business forum where small- and medium-scale industries can find, offer, negotiate and eventually acquire and sell the type of technology which is suitable for their industrial operations, Techmart has been providing project promoters and entrepreneurs with a unique setting for the conclusion of technology and joint venture agreements.

42. Techmarts have been frequently requested by developing countries. These events will continue to take place in different locations each year, e.g. Viet Nam (1994), Brazil, India and Zambia (1995). Approximately 2,000 technologies, including environmentally sound technologies, are expected to be promoted in these events. Furthermore, a Techmart focusing on environmentally friendly technologies is planned in conjunction with the global consultation on environmental management in the metallurgical industry, Venezuela, 1995. Techmarts are increasingly regionally focused to provide a platform for technology transactions to take place at regional and subregional levels.

43. The UNIDO capacity-building programme on technology transfer negotiations and its support services to technology transfer operations are likewise oriented towards the general objective of facilitating and, in the process, increasing the flow of technology to developing countries. Workshops and courses under this programme took place in Brazil, Indonesia and Uganda in March-April 1994. A full-scale programme is also due to be implemented in five other countries in 1994-1995.

44. Central to this programme is the Manual on Technology Transfer Negotiations (ibid., para. 63), the instrument with which UNIDO has been able to organize its capacity-building activities in a systematic and professional manner. The Manual is one of the most comprehensive bodies of knowledge addressing the range of issues that a technology buyer is likely to be confronted with in the various phases of the technology transfer process. In addition to the development of courses facilitated by the Manual and described in successive Annual Reports, increasing efforts are being made to identify and promote the holding of such courses with selected institutions at the subregional or regional level, with UNIDO franchising its training material. The first phase of the development of an expert system for contract negotiation (ibid., para. 65) is the preparation of a draft contract generator which is at the prototype stage.

45. UNIDO is giving attention to certain emerging forms of technology transactions with significant potential to build up infrastructure in developing countries as is the case of the BOT (build-operate-transfer) scheme (ibid., para. 64). Assistance is currently being provided to some developing countries in the field of BOT, for example technical assistance to Ecuador on the use of BOT for the implementation of a hydroelectric facility and policy advice to China in setting up a national policy and strategy for the use of BOT schemes for large industrial and infrastructure projects. A series of workshops is also under preparation with the purpose of training officials, entrepreneurs and practitioners of developing countries on the characteristics, possible field of use and evaluation of BOT contracts.

46. In the area of informatics and telecommunications, efforts to promote the flows of technology include the provision of guidelines for the purchase and utilization of software and hardware, the promotion of software packages appropriate for small- and medium-scale industries in Africa and the preparation of a directory of telecommunications equipment manufacturers for Latin America and the Caribbean. The aim of the directory is to provide information on available telecommunications equipment technologies in the region with a view to promoting inter-country technological cooperation. A major diagnostic study in local manufacturing of telecommunications equipment in Africa was undertaken in July 1994 with the support of Italy. A main output of the study is a compendium of project concepts to be promoted through other UNIDO programmes such as investment forums, Techmarts and Invesmarts.

47. As part of its programme of offering opportunities in a comprehensive way to developing countries for ecologically sustainable industrial development, UNIDO has prepared a set of initiatives involving biotechnology applications. Cooperation with development non-governmental organizations has been embarked on as a means of promoting ecotechnology for sustainable development through computer conferencing and through training. Activities are planned for China in 1994, the Philippines in 1995, and South-East Asia in 1994-1995. Additional information related to UNIDO activities for the transfer of cleaner production technologies is provided in chapter V.A below.

48. Increasing emphasis is being placed on commercialization of biotechnology research and transfer of technology. Close links have been developed with the Senior Advisory Group on Biotechnology, which is composed of industry representatives in the European region. In cooperation with the Investment Promotion Service in Paris, contacts have been facilitated between French and Indian and between French and Thai enterprises for investment and technology transfer in the field of biotechnology. Ongoing work relating to biosafety is also aimed at creating a technical regulatory infrastructure for ensuring biosafety which, in turn, will facilitate the transfer of biotechnology (ibid., para. 56).

49. In addition, a model computerized network on biodiversity and biotechnology is being established in cooperation with the Food and Agriculture Organization of the United Nations linking eight developing countries in Asia. This network will facilitate information flow on environmentally sound biotechnologies for integrated conservation and utilization of biological diversity.

50. Special reference should be made to the recently launched investment and technology partnership initiative aimed at linking investment promotion with technology upgrading and the enhancement of technological capabilities. Developing countries are encouraged to adopt long-term comprehensive programmes, involving complementary measures to accelerate investment and the absorption of the related technology so that both investor and recipient countries can benefit fully.

51. In its subsectoral industrial activities UNIDO gives top priority to enhancing the access of its clients to the technologies that best respond to their requirements. To that end, close contacts are maintained to international technology institutions and individual experts and in this and other ways staying abreast of global trends in technology development and market requirements including higher emphasis on clean production. Within specific subsectors this work is supplemented by in-house desk analyses comparing alternative processes for the manufacture of the same product and advice on the final technology selection and process design. Another important element is the promotion of direct support to networking arrangements among related institutions at all levels, i.e. from national to global, for the purpose of enhancing the flow of technological information and experience.

52. Examples of operational activities specifically dealing with the transfer of cleaner production technologies including projects implemented under the Montreal Protocol, are reported in chapter V below. Examples of activities reflecting current demands and having the potential of being transferred to other interested developing countries include assistance being provided to Egypt in the selection of a technology for the recovery of black liquor in a paper mill. Following successful pilot plant trials using a bubble reactor for the desilication of rice-straw black liquor, advice will now be provided to improve the existing washing system for rice-straw pulp in order to obtain more concentrated black liquor which could be used in a conventional recovery system. A project in China assists in the transfer of technology for the preparation of catalysts used in the petrochemical and fertilizer industry, supported by locally-made carriers. Among the advantages of this technology is the prolongation of catalyst life. The project, which is in good progress, is presently concentrating on cooperation with operating companies in China and providing increased access to on-line scientific information. A project recently started in Jordan in the area of biotechnological treatment of wastes generated by the pharmaceutical industry with particular reference to chlorinated biphenyls, a highly hazardous waste. In the Democratic People's Republic of Korea a new, world-wide competitive technology for the manufacture of acetic acids from methanol is under pilot plant testing in order to accumulate the necessary techno-economic parameters for scaling up the technology to industrial level. In India, an industrial-scale, centralized plant is being established for recycling of chrome from spent tanning floats for a cluster of small and medium-scale tanneries. Within the same project dewatering of tannery sludges using a belt filter press and a bowl centrifuge in two large centralized tannery effluent treatment plants represents possibly the first attempt of this kind in the region. In Africa, UNIDO is continuously assisting the tanning and leather products industry in the design, installation and initial operations of tannery effluent treatment plants. In China, assistance is provided in the design and construction of energy transport vessels with the aim of creating an energy-efficient fleet of carriers transporting coal from the mines in north China to the highly energy-consuming south of the country. The project is presently working on designing low-draft vessels suitable for shallow water and building the prototypes at local shipyards under contract.

B. Development and use of indigenous scientific and technical capacity through training and strengthening of national institutions

53. The accumulation of technical skills and the creation of technological competence requires build-up of capability in general and scientific and technical training in particular. The building up of endogenous technological capabilities requires particular emphasis on domestic technological infrastructure which includes strengthening of institutions dealing with research and development (R and D), quality control, technology services and the like. The basic components selected for the UNIDO technology programme support are activities related to the promotion and strengthening of R and D institutions, capability to manage R and D and commercialize its achievements, technology management and quality control, particularly in the context of ISO 9000.

54. The strengthening of national institutions in the field of advanced technologies requires training and long-term capability building which is facilitated by the promotion of international centres of which the International Centre for Genetic Engineering and Biotechnology (ICGEB) and the International Centre for Science and High Technology (ICS) are functioning examples. Details in this respect have been provided in successive Annual Reports.

55. UNIDO pays special attention to the revitalization and strengthening of industrial technology research institutes in developing countries (ibid., para. 41). In April 1994 a guideline document on the above subject was prepared giving focus on the crucial issue of the commercialization of research results of such institutes.

56. Through the implementation of the pilot phase for the establishment of ICS in Trieste, activities are regularly undertaken in line with the need to foster and strengthen the scientific and technical human resources capabilities in favour of selected developing countries. Training courses are carried out in different technical fields according to a programme based on priorities established taking into account a demand survey and the advice of an international scientific committee. The different subject areas are related to new and high technologies. At the same time another important objective of ICS is the setting up and the establishment in different technical fields of a coherent and interactive network of international R and D institutions of developing countries with relevant institutes and industries in the developed world. A three-year programme for 1995 to 1997 is under preparation.

57. National scientific and technological institutes in developing countries have been and are being encouraged to participate in the biotechnology network where traditional knowledge and technologies on the utilization of microbial resources can be improved for micro- and small-scale industrial applications. UNIDO's comparative advantage is its experience in the establishment of ICGEB and continuing close association with it. ICGEB is the only operating international laboratory in the field of genetic engineering and biotechnology and is recognized as an important scientific resource for developing countries. It is being used in collaborative activities aimed at capacity-building at the global, regional and national levels in an integrated programme approach involving biosafety, the sustainable uses of biodiversity, technology transfer, investment strategies, and management, including development, acquisition, and commercialization of biotechnology products, services and industrial processes. Its statutes having entered into force in February 1994, ICGEB will, as requested by its Board of Governors which met in April 1994, continue to be implemented as a UNIDO project for a transitional period up to two years. Its network of 20 affiliated centres provides a strong basis for the development of national capacities. It is envisaged that, after the transitional period, a long-term programme of cooperation between UNIDO and ICGEB will be implemented, with UNIDO experience made available, particularly with regard to commercialization and industry relations, networking of affiliated centres and biosafety and biodiversity issues.

58. In the field of informatics, UNIDO has been implementing activities geared towards supporting the indigenous production of software, particularly in Latin American countries. Strengthening of professional associations of software producers, upgrading of the knowledge of professional staff in the use of advanced software tools, as well as promotion of software packages to make them applicable to industry constitute the main thrust of activities. In cooperation with the International Centre for Theoretical Physics in Trieste, a course is being organized to upgrade professionals from the Arab region to use simulation software.

59. Among the recommendations emanating from the 1992 workshop for representatives of the telecommunications industry in Asia and Pacific was the promotion of a regional centre for type approval testing and certification of telecommunications equipment. As a follow-up, a study was completed in May 1994 to determine the manner in which such a centre could be promoted, the functions it could perform, the resources required, and its organizational structure.

60. UNIDO subsectoral technical cooperation activities are carried out in close cooperation with the counterpart staff in developing countries or by counterpart staff with minimum backing by international experts in an effort to enhance capacity-building. Training programmes, fellowships and study tours are being designed to the specific conditions and needs of the recipients in developing countries. Support towards the establishment and/or strengthening of subsectoral institutions constitutes a major area of emphasis, as reflected in chapter I.E above. A key element is capacity-building within institutions to achieve international competitiveness as early as possible in the quality of products and constant improvement of services provided to industry. Recent activities include the training of participants from Latin America in the industrial utilization of medicinal and aromatic plants (cf. chap. I, para. 23). Within the India leather programme first tests are being carried out in low-sulphide, enzyme-supported unhairing methods using Indian expertise. Also in India, the Centre for Electro-magnetics is continuously being strengthened to enable it to address major problems of the Indian electronics industry with regard to ergonomic design and electromagnetically compatible packaging of electronic products. The requests the Centre is presently receiving from industry and other clients indicate good prospects of sustainability once UNIDO assistance is

terminated. In Ghana, phase II of a project has been launched to convert locally-produced sorghum into malt which contributes towards self-sufficiency in the raw materials supply of Ghana's brewing industry through import substitution. In the area of promoting cleaner production, UNIDO in cooperation with UNEP is supporting national cleaner production centres in order to build up relevant local capabilities (chap. V, para. 130).

C. Technology management

61. UNIDO concentrates on awareness building, technical advisory services and an integrated approach to technology management. Together, the aim is to improve government-, institution- and enterprise-level capability in the context of research, teaching material development, communications and networking, and technical assistance with a clear understanding of the different responsibilities at each level. A group training programme has been developed for joint participation by trainees from Governments, institutions and enterprises. It is distinguished by its focus on integrating technology management at these different levels. The training programme draws on teaching materials, concepts, pedagogy and experience with other relevant UNIDO training programmes. Preparations are under way for an interregional training course on technology management to be convened at Headquarters in early 1995.

62. A new project on biotechnology management development is being initiated to address the needs of managerial training of developing countries to more effectively absorb and manage emerging biotechnologies, especially in managing indigenous biological resources. In addition, UNIDO, in collaboration with the Carl Duisberg Gesellschaft-South-East Asia Programme Office in Thailand and the Philippines, is promoting the establishment of quality control and training centres for mushroom biotechnology and bio-conversion technologies in selected developing countries. These centres will focus on bio-technology training, business management skills, entrepreneurship and increasing women's involvement in small-scale enterprise development. Through income-generation from the private sector, the centres are expected to be self-sustaining within four years.

63. At the subsectoral industrial level technological management is addressed at the level of national or regional institutions and plants. The main contribution is to identify, acquire, negotiate, transfer and sustain technologies with particular emphasis on suitability to local conditions and environmental issues. Recent activities include assistance to small- and medium- scale footwear manufacturers in the Africa region in product development and marketing. In Bulgaria advisory assistance under a recently-approved project will be provided to the Ministry of Industry on immediate remedial measures and long-term modernization of the pulp and paper industry, upgrading of its efficiency and quality standards in order to make it more competitive on the free market.

D. Monitoring and evaluating new and emerging technologies

64. The development and application of new technologies is having an increasing impact on the nature of industrialization and the competitive capability of developing countries. Therefore a major aspect of the UNIDO technology programme is the monitoring, evaluation and promotion of commercial application of new technologies in developing countries.

65. The establishment in 1994 of the first centre for the application of solar energy for developing countries is a good example of such promotional activity. Interest has also been expressed by South Africa to promote such a centre. A network of such centres is planned. Following detailed preparatory work an international centre for materials evaluation technology is being promoted with the support of the Republic of Korea for a pilot phase. In the area of advancement of manufacturing technology India and UNIDO are examining the feasibility of establishing a centre to help upgrade capabilities of developing countries in this respect. Marine industrial technology is another key area in which UNIDO monitors and promotes industrial applications in relation to the needs and opportunities of developing countries.

66. Currently UNIDO produces quarterly monitors on: biotechnology, microelectronics, advances in materials technology and marine industrial technology. A new monitor covering high technology "spin-offs" is planned for later this year. The UNIDO Technology Trend series also provides information on new technologies.

67. Assistance is being provided to developing countries for the establishment of national-level capabilities for the monitoring and evaluation of new technologies. A project in this area has recently been approved for Lebanon and a similar programme is being developed for Tunisia. UNIDO has for many years promoted cooperation among developing countries in technology monitoring. A meeting is planned for November 1994 at New Delhi, India, with the objective of sharing experiences among developing countries on technology monitoring.

68. As one of the implementing agencies of the Multilateral Fund for the Implementation of the Montreal Protocol, UNIDO is monitoring, evaluating and applying through projects the very rapidly changing technologies utilized in the elimination of ozone-depleting substances in the refrigeration, electronics and foam industry (see chap. V, para. 125, for examples of projects).

E. Examination of constraints in access to and transfer of technology

69. The monitoring of trends and developments in international technology transfer is a constant concern of UNIDO as it forms a crucial part of a process of identifying both opportunities and barriers in the access to technologies by developing countries. Such an analysis is meant to provide a background for assisting Governments in deriving a policy and strategic response framework as well as in developing a framework for international cooperation and possible UNIDO intervention.

70. The UNIDO experts meeting on technology transfer trends which took place in October 1993 was organized in that context: to analyse the features and current world-wide technology transfer and development trends; to identify the policy

issues arising for Governments from such developments; and to derive new opportunities for international cooperation. In general, the emerging trends point to changing patterns and growing barriers to the transfer of technology to developing countries. Among the conclusions and recommendations adopted by the meeting (IPCT.195(SPEC.)), those addressed to UNIDO have been taken into careful consideration in the development of subsequent activities.

71. A meeting to review emerging issues of technology capability-building in the changed international context including related investment issues is foreseen for 1995. That meeting is also expected to discuss the potential implications of the General Agreement on Tariffs and Trade (GATT) agreements on trade-related intellectual property systems and investment measures and the question of capability-building in relation to the adherence to such agreements.

72. A key constraint to the ability of UNIDO to promote the access to and transfer of technology is related to available resources. While equipment and software have become available to an increasing number of developing countries, many experts in new and emerging technologies are not willing to work under the terms offered by the United Nations common system. UNIDO is trying to alleviate this problem by recruiting staff with the requisite specialization and by expanding its traditional sources of expertise to new educational, industrial and commercial institutions.

F. Information services to industry

73. UNIDO has continued its efforts to provide information services to industry through the Industrial and Technological Information Bank (INTIB) network of more than 80 national and regional focal points. The focal points are responsible for assessing national information needs and endeavouring to satisfy them, in particular for small and medium industries (SMIs). Of the various tools and activities developed to support the work of the focal points, the most innovative and useful is the International Referral System. In each Member State an inventory is being made of all the specialized sources of information by sector in that country. Information is collected on what types of inquiry the source can handle, what sort of replies it can provide and at what cost. The information is collated into national directories and cumulated in a referral database. When an inquiry is received at UNIDO Headquarters or at a focal point, both the directories and the database serve as a rapid means of identifying and matching several sources of information in response to the inquiry. Despite the current resource constraints, data collection has been completed for 11 countries and is well under way for several others.

74. To provide even further support to the efforts of focal points, three project types have been developed and are being used to provide technical cooperation, depending on the level of country development. The first type is used to assess the need for developing an industrial technology and market information network in a country, including the potential of existing institutions and the need for human resource training, hardware and software. The second type aims to provide industrial information services to SMIs, particularly in countries with economies in transition. The project aims to develop the capabilities of selected information centres to advise and train managers and professionals in SMIs and to help establish SMIs' own information units and exploit information resources available in the country. The third type of project is of a larger scale, designed to establish comprehensive national network information services in a country. The overall goal is to facilitate industrial development by establishing a network within a country in order to provide or improve access to: industrial and market information for enhancing production, industrial investments, export and decision-making processes; and international databases and world-wide information systems.

75. In order to increase the flow of technology, including environmentally sustainable technologies, to developing countries, a pilot methodology has been developed by INTIB. The methodology is consistent with the recommendations of the Commission on Sustainable Development to identify, describe and prioritize the most crucial sectoral environmental problems through needs assessment, in relation to the transfer, adaptation, development and dissemination of environmentally sustainable technologies. The methodology will result in comparative analyses of industrial process/technology needs, identified through country surveys, with the technology options available (and their vendors).

76. Furthermore, with the launching of the monitor on environmental technologies in autumn 1994, INTIB will be supporting the transfer of information, inter alia, on new developments in the field.

77. In addition to the above activities, at the subsectoral level manuals on working methods, standard operating procedures and safety instructions are generated or completed by data collection and widely disseminated to developing countries. Workshops on specific subsectors of industry are organized for participants from developing countries in order to acquaint them with the latest technological developments in a given field. Examples of recent activities are the integrated international safety guidelines for pesticide formulation in developing countries (chap. V, para. 141), a manual on selection of equipment and reagents and operation of pollution control laboratories in the tanning industry, a comprehensive study on low-waste leather-processing methods suitable for developing countries, a guidebook (in cooperation with UNEP) on pollution issues of the electronics industry, and the workshop on modern techniques for water and wastewater treatment in Melbourne (cf. chap. I, para. 34). The last in a series of workshops under the UNIDO natural rubber programme will take place in Indonesia in October 1994 demonstrating to natural rubber-producing countries the use of natural rubber bearings as base isolation to protect buildings and other structures from earthquakes.

III. INDUSTRIAL REHABILITATION AND MODERNIZATION

78. The present chapter provides information on the implementation of the programme for industrial rehabilitation and modernization (GC.5/12/Rev.1) as approved by the General Conference in resolution GC.5/Res.4. In addition, as requested in paragraph 2 of resolution GC.5/Res.4, cooperation

with regional and other organizations is discussed as it relates to activities undertaken in industrial rehabilitation and modernization and in the field of privatization.

79. In the context of the UNIDO restructuring, the industrial rehabilitation and modernization programme was clearly spelled out in the terms of reference of the new Enterprise Development and Restructuring Branch (cf. Director-General's Bulletin UNIDO/DG/B.175). The Branch, which is responsible for supporting industrial enterprises and improving their competitiveness by enhancing their economic performance and productivity, provides services to Governments, institutions and particularly to enterprises in such areas as industrial management, development of management skills, restructuring and rehabilitation (also in support of privatization), as well as the development and establishment of management consultancy capabilities so as to improve the commercial and operational viability of enterprises.

A. The UNIDO approach

80. The increased demand for restructuring and rehabilitation services stems from the following developments and requirements: (a) drastic economic and political transformation, as is the case in former centrally planned economies, requires major support to industrial restructuring; (b) as a major part of the economic restructuring reform programmes of many developing countries, there has been a global move towards privatization and commercialization in the process of which prior- or post-privatization restructuring is necessary; (c) the recent changes towards trade liberalization and policy deregulation have created not only opportunities but also temporary constraints for enterprises, which call for assistance in enterprise-level restructuring and upgrading of competitiveness.

81. In order to enhance the effectiveness of enterprise rehabilitation, UNIDO has developed an integrated and focused approach. Taking into account the environment - both macro and micro - this approach generally involves four steps: diagnostic; restructuring strategy; business plan for restructuring; and implementation of the business plan. The approach is applied at four levels: at the overall industrial policy level, measures need to be applied to facilitate market-oriented reforms and transformation of the ownership of public sector enterprises; at the institutional level, the institutional infrastructure has to be developed and set in place to support the transformation and to facilitate industrial growth; at the subsectoral level, the linkages of activities between enterprises need to be built up into networks; and at the enterprise and individual production plant level, critical bottlenecks have to be identified and overcome and efficiency and competitiveness increased. Carrying out these tasks involves support to financial, technological and operational restructuring, as well as to transformation of ownership (privatization).

82. This approach to rehabilitation has been used in implementing many projects in developing countries and countries of former centrally planned economies. The experience obtained from each case and situation is usually drawn upon in solving similar problems in other countries concerned. Based on this experience and knowledge gathered from other technological and managerial sources, UNIDO will continue to further fine-tune the strategy and approach for developing and utilizing effective industrial rehabilitation.

B. Implementation of the programme

83. Examples of UNIDO activities for rehabilitation and modernization recently carried out under the four subprogrammes described in chapter IV of the programme (GC.5/12/Rev.1) are given below.

Assistance to industrial enterprises in improving performance towards (re)attaining economic and technical viability

84. Assistance has been provided to enterprises in a number of African countries. In the United Republic of Tanzania enterprises were supported in improving management, productivity and competitiveness through direct operational assistance, on-the-job and formal training programmes, and by strengthening the interlinkage with other enterprises. In Mali enterprises were assisted in production and maintenance management. Assistance was also provided to Ethiopia in improving plant-level performance through the introduction of improved quality control and cost accounting functions and related management training.

85. An expert group meeting on cost accounting conducted in Cameroon in cooperation with the African Accounting Council in December 1993 led to the adoption of a manual on cost accounting for financial management personnel in industrial enterprises in African countries.

86. A training programme was specially designed for Poland aimed at improving management capability, efficiency and economic performance, with particular emphasis on human resource development.

Advisory services at the policy and institutional level

87. Advisory services at the policy level are being provided, for example, to the Government of the United Republic of Tanzania (Zanzibar) in the development of a programme for privatization and rehabilitation. Such services have also been requested by the Government of Peru in support of privatization programmes. Similar activities at the policy level were also carried out in some of the New Independent States of the former Soviet Union.

88. At the institutional level, training programmes in industrial services include seminars and expert group meetings on cost accounting development, and management consulting development in the African region. Of particular importance to the African least developed countries were the workshops on privatization policies and strategies, the most recent of which was held in Guinea-Bissau in June 1994 (chap. VIII, para. 213).

Promotion of direct investment and mobilization of financial resources for training and other key inputs to the industrial rehabilitation and modernization process

89. Information on some of the activities related to this heading can be found under chapters I.C and VI.F of the present report.

Advisory services and assistance in the context of restructuring, rehabilitation, modernization and privatization of industrial enterprises

90. Privatization has taken on increasing importance as a means to improve the economic performance of industrial enterprises both in developing countries and in formerly centrally planned economies. In that context, the availability of better management systems as well as incentives, technological inputs and investment is expected to increase enterprise efficiency. In the privatization process, usually an enterprise diagnosis, including a financial audit and valuation, would be undertaken to determine the general condition and prospects for the enterprise in terms of operational efficiency and market possibilities and to determine the optimal method for the privatization.

91. In Sudan, a major project funded by the World Bank is providing assistance to the privatization programme. A project in the United Republic of Tanzania under the Special Industrial Services (SIS) programme identified restructuring needs and a valuation approach to five state enterprises. As mentioned in paragraph 213 below, a privatization workshop for French-speaking LDCs was held in Guinea-Bissau. In Sri Lanka, a private sector performance improvement project is under preparation which, originally, will consist of a pilot project covering 10 private sector enterprises.

92. Under the United Kingdom Know-How Fund, the UNIDO project in Poland (IDB.12/2, chap. V, para. 78) continued to provide restructuring assistance to 15 large state enterprises in formulating and implementing a restructuring strategy, paving the way for their commercialization and eventual privatization. In Uzbekistan, assistance towards the privatization and private sector development programme is being rendered through a workshop on privatization and services for strengthening the database for privatization; restructuring needs were assessed and a separate enterprise restructuring project was formulated. Assistance has also been sought by other reforming countries. A mission is planned to assess the restructuring and privatization needs of Kazakhstan and for Mongolia a project was approved under SIS for the provision of high-level advice on restructuring and privatization.

C. Cooperation with regional and other relevant organizations

93. With the emerging trend towards market-oriented reform in the former centrally planned economies, and divestment of state enterprises in developing countries, opportunity exists for cooperation with a number of international and regional organizations in dealing with privatization issues. In line with the mandates of General Conference resolution GC.5/Res.4, paragraph 2, UNIDO has made renewed efforts towards establishing links with relevant organizations.

94. Discussions were held with UNDP on private sector development projects executed by both agencies, with a view to exchanging experiences and developing a framework for future cooperation.

95. Experiences were also exchanged with visiting senior staff from the International Centre for Public Enterprises (ICPE). A highlight of the discussions was the importance of training managers in transition economies in order to equip them with modern management skills. This would enable them to face the significant challenges encountered in moving from a product- to a market-led situation. Since ICPE already has a Masters in Business Administration programme and the requisite resources, it was suggested that a short conversion programme be designed for senior managers in transition economies. UNIDO could provide assistance in drafting the curriculum, based on its experience in restructuring.

96. UNIDO participated in Economic and Social Commission for Asia and the Pacific (ESCAP) seminars on privatization and followed up with preparing a technical cooperation programme, based on recommendations arising from an ESCAP mission to the Central Asian republics. Also, a senior representative of ESCAP visited UNIDO and views were exchanged on matters related to privatization and restructuring.

97. The UNIDO experience in enterprise restructuring was presented by the Director-General at the Third East-West Conference of Ministers of Economy, Industry and Trade of G-7 and Reforming Countries convened at Warsaw, Poland, from 5 to 7 May 1994.

IV. SMALL- AND MEDIUM-SCALE INDUSTRIES

98. The General Conference in resolution GC.5/Res.5 approved the UNIDO programme for small- and medium-scale industries contained in document GC.5/11 and requested the Director-General to present to the Conference at its sixth session through the Industrial Development Board a report on the implementation of the UNIDO programme on small- and medium-scale industries. The present report, which has been prepared in response to that request, provides information on progress made on the implementation of the programme and on the areas of concentration based on demand trends.

99. Document GC.5/11 provided a broad policy framework for developing and implementing UNIDO activities related to small- and medium-scale industries. In the process of focusing on priority activities and translating the policy framework into appropriate strategies and operational programmes, an important step was the expert group meeting on small- and medium-scale industries, co-sponsored by the Government of the Netherlands, held in Vienna in August 1993. The meeting adopted a number of conclusions and recommendations which were taken into account in the prioritization and structural reform of UNIDO (see summary in document GC.5/CRP.3).

100. As explained in the 1993 Annual Report (IDB.12/2, chap. V, para. 68), those recommendations were followed up by an interdivisional working group which elaborated an action plan for operationalization of the programme. Subsequently, and in line with the new priorities and structural reform of UNIDO, the terms of reference of the Small and Medium Enterprises Branch established in 1994 (UNIDO/DG/B.175) were formulated. The Branch is responsible for designing, managing and implementing the small and medium enterprise (SME) programme of UNIDO. In accordance with the main objective of that programme, the Branch aims at

enhancing the contribution of SMEs to overall industrial growth and competitiveness, employment generation as well as equitable and sustainable development. It supports developing countries in establishing and maintaining a policy environment conducive to the promotion of SMEs, as well as in developing and strengthening institutional mechanisms to improve productivity and overall performance of those enterprises through entrepreneurship development, upgrading technology and skills, promoting partnerships and facilitating access to resources and markets.

101. Since its inception in January 1994, the SME Branch has been developing and consolidating the SME programme strategy and operational programme components. The programme focuses on the development of competitive and dynamic SMEs and aims at upgrading their human, technological, managerial and organizational capabilities. The SME programme is involved with activities relating to all development objectives and special considerations of the draft medium-term plan, 1996-2001 (IDB.13/19). The programme is also conceived with a significant capacity for linkage with and contribution to major global development themes pursued by the United Nations and the international community as a whole. In that context the programme addresses core issues to integrate economic and social development as building blocks towards the overall objective of sustainable development.

102. The programme will follow a flexible and demand-driven approach to improve the policy and institutional environment in which SMEs operate rather than to assist enterprises directly. Advisory services will aim at building up capabilities in developing countries and are supported by action-oriented research conducted in cooperation with an international network of experts and institutions. A high-level advisory group (see para. 119 below) will enhance not only the think-tank capacity of UNIDO but also the resource capacity for technical cooperation beyond the services of its staff. In support of that, the SME observatory and research network has been initiated in order to continuously monitor SME-related issues, organize action-oriented research on SMEs and develop guidelines and methodologies of intervention.

103. Better networking with bi- and multilateral donors including development banks in the form of research, joint technical cooperation programmes and projects is being actively pursued with a view to exchanging experience and ensuring complementarity of support activities. Another important aspect of the strategy is that of team formation and cooperation across the boundaries of current organizational structures. This is commensurate with the multidisciplinary nature of assistance packages addressing such needs as technology, management, information and quality. The modules can draw from a variety of substantive programmes, consolidated into an integrated approach to ensure interdivisional complementarities.

104. The implementation of the four subprogrammes listed in document GC.5/11 has been continuing, while within each subprogramme areas of concentration are emerging based on demand trends in developing countries on the one hand and core capabilities and comparative advantages of the Organization on the other. In line with emerging demand trends, the programme focuses on two core areas: assisting Governments in SME strategies, policies and programmes and building up efficient SME support institutions and systems. Specialized programme components are being further consolidated, in particular in the integrated rural development programme. Illustrative examples of SME activities under the respective subprogrammes as well as an indication of trends are provided in the following paragraphs.

A. Subprogramme I: Developing enabling environments

105. Activities in the area of SME strategies, policies and programmes focused on establishing and maintaining a policy and institutional environment conducive to the promotion and sustained growth of small and medium enterprises and developing national capabilities in designing and managing SME policies and programmes. Through such activities advice is provided to and a policy dialogue is established with all concerned parties (public and private) in order to: (a) build awareness of new challenges and opportunities faced by the SME sector; (b) improve market mechanisms; (c) promote and support the development of dynamic and efficient clusters of SMEs based on inter-firm cooperation; (d) develop an integrated framework of supportive industrial, technological and trade policies and programmes to help SMEs to upgrade their competitiveness and their human, technological and managerial capabilities; (e) organize demand-driven, decentralized networks of institutions able to offer a complete range of support services to the SME sector. For example, the development of integrated national SME programmes with major UNIDO involvement has been initiated in Madagascar and Nigeria. These programmes focus on supporting SME dynamism and efficiency in key sectors of the economy. Another example is the regional SME umbrella programme that will be implemented within the framework of the Industrial Development Decade for Africa (IDDA). Among other things, a network of SME support institutions, including associations, will be established. A series of publications based on action-oriented research will be prepared and a training programme for policy makers and managers of SME support institutions will be organized. Other SME umbrella programmes are foreseen for Central and Eastern Europe, Asia and Latin America and the Caribbean.

106. Policy advice and technical cooperation have been provided to a number of developing countries in designing and implementing policies and programmes for sustained growth of SMEs. Such support has taken various forms depending on the demand of the country or region concerned. In the case of the Lao People's Democratic Republic and Viet Nam preparatory assistance led to the formulation of a framework for national SME programmes. Such programmes are formulated and developed through a participatory approach which strengthens cooperation and linkages between SME associations, support institutions and government and ensures demand orientation.

107. Linkages between SME programmes and overall industrial development policies received due attention. Backward and forward linkages with other sectors such as agriculture, which have important implications for the SME sector, were also taken into account when formulating overall industrial development policies. Such assistance

aimed at creating an enabling environment for private sector development were undertaken in countries such as Albania, Burkina Faso, Guinea, Jordan, Niger, Oman, Qatar, Sri Lanka and Zimbabwe. In Bhutan an analysis of constraints in the policy and institutional framework to starting and operating businesses was undertaken. This systematic review and analysis provided the Government with a solid basis for making changes in policies and procedures that affect the private sector, and SMEs in particular.

B. Subprogramme II: Developing demand-oriented institutional mechanisms

108. In the area of SME support systems and institutions, emphasis is on developing and strengthening networks of support systems and institutions (including private sector institutions and associations) in such areas as creation of enterprises and entrepreneurship development, business advisory services, upgrading human and technological capabilities, mobilizing finance, facilitating access to markets and developing inter-firm linkages and cooperation. For example, through integrated assistance combining technical and financial support (pilot revolving funds) to SMEs, dynamic and efficient SMEs have been successfully created and developed in a number of African countries. Integrated assistance, which focuses in particular on the building up of national capabilities for the creation and development of SMEs is being provided, for example, to Guinea, Guinea-Bissau, Uganda and Zambia. This type of assistance led to substantially improved services by SME support agencies, banks, training institutions and local consulting firms. Assistance was initiated in Uzbekistan in establishing model schemes for business incubators to support new entrepreneurial ventures. Advisory services were also provided for setting up an incubator programme in Thailand; tools for African SMEs will be developed (including software) in the context of the IDDA regional umbrella programme (para. 105 above).

109. Another example is the policy advice provided to Romania (IDB.12/2, chap. V, para. 70), which led to the creation of the Centre for the Promotion of Small and Medium Private Enterprises. The Centre provides services directly to existing small- and medium-scale industries and potential entrepreneurs, in areas such as marketing, management, production, and financing. One important feature of the Centre is a technology database that facilitates the identification of appropriate equipment, materials, and processes for entrepreneurs in different subsectors. Based on the Romanian experience, a new regional project is being initiated for some of the New Independent States of the former Soviet Union.

110. Assistance was provided to national institutions in respect of quality, standardization and metrology for certification marking, calibrations and testing in Albania, Algeria, Bangladesh, the Democratic People's Republic of Korea, the Islamic Republic of Iran, Kuwait, Nigeria, Oman, Pakistan, Romania, Saudi Arabia, Seychelles, Thailand, Turkey, Uganda and Zimbabwe. Assistance was also provided to industry associations and enterprises in the building up of their capacities and continuous assessment of quality improvement, productivity increase and ISO 9000 certification in Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Ecuador, Kenya, Mexico, Peru and Venezuela.

111. Considerable progress is being made in the area of industrial information services as well as advisory and training facilities specialized in the acquisition of technologies for SMEs. As reflected in paragraph 73 above, an innovative approach to information services within the framework of INTIB has particularly benefited small- and medium-scale industries. Similarly, the Techmart represents an important business forum primarily in support of small- and medium-scale industries (paras. 41-42).

112. Technical cooperation also included the consolidation of a regional programme and network of subcontracting and partnership exchanges in Latin America and the Caribbean, comprising 28 exchanges in 13 countries of the region. In view of its sustainability, the network has established itself into the "Asociación Latino Americana de Bolsas de Subcontratación", which is presently acting, upon the recommendation of UNIDO, as the counterpart institution to the European Union "AL-SUBCONTRATA" programme that promotes industrial subcontracting and partnership agreements between Latin American and European enterprises. The establishment of an Arab subcontracting system and network was completed and is fully operational between Algeria, Jordan, Morocco and Tunisia. Other Arab countries (Egypt, Lebanon, Saudi Arabia, Syrian Arab Republic) have expressed interest in establishing national subcontracting and partnership exchanges and joining the regional network. The establishment of a similar system and network has been requested for Central and Eastern Europe and sources of financing are presently being explored, while at the national level a pilot exchange was established at Gdansk, Poland, and an exchange became fully and successfully operational at Istanbul, Turkey. An agreement is also being finalized with the Slovak authorities and the European Union PHARE programme for the establishment of an exchange in Bratislava.

C. Subprogramme III: Integrated programme and subsectoral approach at the enterprise level

113. A large number and diversity of projects are being implemented aimed at improving financial and management capabilities, technologies and production processes in SMEs as well as introducing new products and markets. Improvement of the environmental performance of SMEs is also addressed. For example, in the leather and leather products sector, the Africa regional programme assists SMEs in raw hide handling, tanneries, footwear and leather goods manufacturers. Assistance was also provided to setting up new small-scale tanneries in Malawi and Mozambique. In South-East Asia, individual tanneries and clusters of traditional family-owned small tanneries are being assisted in pollution control comprising both introduction of cleaner technology and waste treatment.

114. In the engineering and metallurgical industries subsector, UNIDO efforts have concentrated on upgrading technologies at the enterprise level and reducing environmental pollution created by their processes. UNIDO expertise is being provided in India to eliminate ozone-depleting substances used by small-scale enterprises in refrigeration, air conditioning and foams. At the subsectoral institutional level, centres are being established or strengthened to provide SMEs with services such as training, assistance in product design, testing and certification services. Such centres include die and

mould making (Viet Nam), electronic packaging (India), environmental testing (for regional Africa, based in Zimbabwe), dissemination of technologies for design and manufacturing of simple machines (e.g. hydraulic presses, mills) by SMEs in Nigeria.

115. The integrated subsectoral SME programme endeavours to improve the organization, productivity and process of innovation of subsectoral clusters of SMEs that produce a range of related goods. Initiated in a number of Central American countries (Honduras, Jamaica), the programme aspires to introduce flexible specialization within the SME cluster. This means helping SMEs to specialize in specific products and markets; to continuously upgrade their product quality and the efficiency of their production and marketing process; to cooperate in the development of final and supply markets; and to upgrade skills, technological know-how and access to financial resources. The programme is implemented by a network of sectoral resource centres in cooperation with technical and financial institutions and with government support.

116. In respect of the integrated rural development programme, assistance was provided to promote rural small-scale and micro industries to diversify income-creating opportunities. Essentially this involved improvements in the functioning of promotional institutions and the development of a new system for rural industry promotion, including a revolving fund programme. Such assistance was provided in Guinea, Guinea-Bissau, Mozambique and Zambia. Assistance provided in the development of agro-related industries included the processing of agricultural produce with appropriate technologies; identification of new types of products; improvements in storage facilities, shelf life, transportation and quality improvement institutions; improvement in production systems for agricultural inputs, for example hand tools and facilities for repair and maintenance of agricultural equipment and machinery. Linkages were created between rural development and drug control by developing alternative business opportunities, contributing to the System-wide Action Plan on Drug Abuse Control (e.g. Bolivia). The rural development programme of UNIDO emphasizes industrial activities that result in increased income among small-scale farmers, particularly in the least developed countries (LDCs) and in sub-Saharan Africa, aiming at poverty alleviation. Effluent treatment, efficient utilization of depletable resources and introduction of alternative resources were reflected in a number of rural industry projects in line with Agenda 21.

117. In line with the priority given to the development of SMEs in LDCs, UNIDO has strengthened and expanded its activities in that area. Notably, assistance to LDCs accounts for the majority of SME projects carried out by UNIDO. Examples of such assistance in Benin, Burkina Faso, Ethiopia, Guinea, Lao People's Democratic Republic, Mozambique and Zaire are reported in chapter VIII.

118. The development of small- and medium-scale enterprises and the promotion of entrepreneurship is at the centre of UNIDO activities for the advancement and integration of women in the economy and in the productive process itself. As women have traditionally played an important role in the SME sector and in the informal sector in particular, activities have primarily focused on potential and existing women entrepreneurs in subsectors where they feature predominantly, i.e. the agro-food and textiles industries, with the purpose of increasing income-generating opportunities for women. Several programmes and activities are being promoted and implemented, such as the training programme for women entrepreneurs in food-processing industries (United Republic of Tanzania) and the assistance programme for women entrepreneurs in the textile industries which provides direct support to existing entrepreneurs throughout the production cycle (Kenya, United Republic of Tanzania).

D. Subprogramme IV: Contribution to global development themes

119. The SME observatory and research network has been initiated to promote research and debate on key small- and medium-scale industry issues, and to elaborate appropriate responses and translate them into practical tools and guidelines for innovative field-level implementation. Among the activities foreseen are: (a) the organization of a high-level advisory group and a network of international, regional and national SME institutions to review significant SME development issues and to assist in improving UNIDO intervention and methodologies, including cooperation in joint research and assistance projects; (b) international SME workshops to exchange experiences and information on related issues; and (c) periodic issuance of an SME newsletter and other publications on trends, events and case studies.

120. In respect of surveys and evaluation studies, progress has been made on a review of mechanisms to assess the impact of market liberalization measures on rural small-scale industries based on selected case studies. Moreover, a programme is under preparation to promote national research on the effects of various programme approaches to enhance the industrial contribution to rural development. A study on intersectoral and interregional linkages and rural development based on case studies is also under preparation.

121. UNIDO participated in the annual meeting of the Administrative Committee on Coordination (ACC) Task Force on Rural Development and organized the annual meeting of the Inter-agency Working Group on Industrial Contribution to Rural Development within the framework of the ACC Task Force in May 1994. The meeting highlighted experiences in promoting rural small-scale industries, particularly for women's income-generating activities and their development into sustaining growth enterprises. The role of intermediate towns was noted in terms of rural-urban linkages and rural development.

122. Practical tools are being developed in order to support rural small-scale industries. Funds have been mobilized to develop a pilot kit for a community-based entrepreneur support package that includes a rural entrepreneurship reinforcement programme and a simple tool for financial viability evaluation. A programme is being developed to improve exchanges of expertise, experiences and issues among national policy makers and researchers among LDCs through a UNIDO-supported network system in order to build up self-reliant national capacity.

123. An expert group meeting on the UNIDO Industrial Subcontracting System (UNIDOSS) and Partnership was organized in Vienna from 20 to 24 June 1994. The meeting recommended consolidating UNIDO experience and know-how (which is not available in any other international organization) and widely disseminating its programme and methodology through regular UNIDO activities (such as training seminars, awareness conferences, research and publications and networking) and through the establishment of a UNIDOSS club. It also recommended the design of a new version of UNIDOSS software and its possible commercialization.

V. ENVIRONMENT, ENERGY AND SUSTAINABLE INDUSTRIAL DEVELOPMENT

124. Since the restructuring of UNIDO in January 1994, the environment- and energy-related programmes have been directly linked with those on industrial subsectors, with a view to achieving mutual complementarity between UNIDO cross-industrial environment-related activities and those of a subsector-specific nature in response to Agenda 21 and the concepts of ecologically sustainable industrial development (ESID).

125. A major challenge for UNIDO is the Montreal Protocol, which requires the phase-out of ozone-depleting substances. UNIDO became an implementing agency of the Multilateral Fund for the Implementation of the Montreal Protocol in late 1992. By mid-1994, the Fund had allocated $6.3 million for UNIDO, covering primarily project formulation and in some instances projects for phase-out of ozone-depleting substances in the following countries: Algeria, Argentina, Brazil, Cameroon, China, Egypt, India, the Islamic Republic of Iran, Jordan, Kenya, Nigeria, Pakistan, Romania and the Syrian Arab Republic. UNIDO has also been assigned a number of global projects, including joint action with the United Nations Environment Programme (UNEP) to continue preparation of country programmes. Institution-strengthening projects are under way in Egypt and the Syrian Arab Republic, and an investment project in the foam sector for Egypt, approved in 1993, was completed in August 1994. An additional 12 projects for a total of $14.6 million in the refrigeration, foam and solvents sectors were approved in July 1994 for UNIDO implementation.

126. The clean industry fact sheets contained in the folder "A better world with clean industry" have been revised for re-issue. The folder now contains 15 fact sheets covering the following subjects:

(a) Ecologically sustainable industrial development strategies;

(b) Ecologically sustainable construction industry;

(c) Phasing out ozone-depleting substances;

(d) Environmentally sound management of biotechnology;

(e) Environmentally sound management of toxic chemicals;

(f) Hazardous waste management;

(g) Promoting cleaner production;

(h) Environmentally sound energy supplies;

(i) Women, industry and environment;

(j) Environment and energy information;

(k) UNIDO and capacity-building for ecologically sustainable industrial development;

(l) The leather and tanning industry;

(m) Strengthening the role of business and industry;

(n) Water, industry and the environment;

(o) UNIDO and Agenda 21.

127. The requirements of General Conference resolution GC.5/Res.6 constitute a long-term imperative for UNIDO in its operational and analytical activities. However, since the introduction of the restructured environment programme in January 1994, the following progress may be reported.

A. Enhancement of the transfer of cleaner production technologies to developing countries (GC.5/Res.6, para. 1 (a))

128. UNIDO accords special emphasis to the transfer of cleaner technologies, waste minimization and capacity-building. At the enterprise level, support is provided to individual enterprises that are interested in introducing cleaner production programmes into their activities. Some recently-completed activities are in the cement sector in Egypt and the cane sugar sector in Mexico. A demonstration in the metal-finishing sector is currently under way in Pakistan, while demonstrations in other Asian and Latin American countries are also being carried out. A Government-executed project in China with the support of high-level UNIDO consultants aims at management of the transfer and diffusion of technology for a cleaner machine tool industry.

129. Based on a fact-finding mission to India a project was drawn up which will assist the glass industry in Firozabad and the foundry industry of Agra to reduce the effects of atmospheric pollution on the population and the nearby Taj Mahal (IDB.12/2, chap. V, para. 45).

B. Promotion of capacities in developing countries to develop and produce such technologies and techniques (GC.5/Res.6, para. 1 (b))

130. To build up local capabilities to identify possibilities for cleaner production, to conduct waste audit and waste minimization studies, and to assist in the transfer of cleaner technologies, UNIDO is cooperating with UNEP in supporting national cleaner production centres in six countries for a three-year period. The centres will play a coordinating and catalytic role in cleaner production by providing technical information and advice, demonstrating cleaner production techniques and technologies, and training industry and government professionals. While the initial phase of this programme, launched in 1994, will support six centres, it is intended that the programme will eventually be able to provide support to 20 centres over a period of five years.

131. Another activity at the institutional level is support for cleaner production programmes within environmental management agencies. UNIDO is working on such a project with the Central Environment Authority of Sri Lanka. It is building the capacity of the Authority to use waste-reduction measures as the first step in achieving industrial compliance with environmental norms, and also providing seed money from a revolving loan fund for low-cost cleaner technologies. A similar effort is being initiated with the environment authority of Nepal.

132. Processes being promoted in the pulp and paper industry include alternative environment-friendly technologies for chemical pulping; replacement of chlorine for bleaching; and chemical recovery systems from black liquor and desilication (IDB.12/2, chap. V, para. 36).

133. At the international level, UNIDO is cooperating with the World Bank and UNEP in preparation of subsector-specific guidelines on pollution prevention and abatement.

C. Promotion of technical cooperation among developing countries in environment-related matters
(GC.5/Res.6, para. 1 (c))

134. Among the "Melbourne Principles" drawn up by an international conference on economic growth with clean production was the importance of cooperation between and the specific roles of all concerned parties as prerequisites to the achievement of ESID: Governments, industry and research institutes in both developed and developing countries. The conference, organized jointly with the Commonwealth Scientific and Industrial Research Organization at Melbourne, Australia, in February 1994, was attended by representatives of Governments, industry and scientific and technological institutions. The "Melbourne Principles" identified by the conference constitute a set of 10 guiding principles for the achievement of sustainable development.

135. A case of regional technical cooperation aiming at improvement of motor vehicle emission control is the Asia project for a regional network on control and regulatory measures concerning motor vehicle emissions, now nearing completion. Under the project a regional network was established and became operational and a series of guidelines for vehicle emission-related issues requiring a common approach within the region were prepared, assessed and agreed upon at expert group meetings held at Seoul, Republic of Korea, Jakarta, Indonesia and Beijing, China (March 1994). A fourth meeting is scheduled for late 1994. A regional seminar on environmental management in the iron and steel industry held at Morelia, Mexico, in August 1994, strengthened cooperation between the concerned institutions in Latin America.

136. Technical cooperation among developing countries (TCDC) in environmental aspects of pesticide and pulp and paper industries is promoted through regional workshops and individual training in institutions in developing countries having the facilities, infrastructure and know-how. Chapter I (para. 38) of the present document provides details of specific recent activities.

D. Enhancing in-house analytical capacity in the field of environment and energy
(GC.5/Res.6, para. 1 (d))

137. The Environment and Energy Branch (ISED/ENV) was established in January 1994 as part of the Industrial Sectors and Environment Division. In compliance with the relevant part of its terms of reference, the Branch undertook a first assessment to determine the extent to which UNIDO had implemented the environment programme called for by the Industrial Development Board. The Branch reviewed all relevant new technical cooperation projects initiated in 1992 to determine the extent to which they either directly or indirectly incorporated an environment dimension. The report emanating from that review was issued as an internal document in July 1994 (ISED.3(SPEC)). The analysis indicated that UNIDO is undertaking more environment-related projects than suggested by the number of projects identified as "environment" in the official project classification.

138. Awareness-raising activities for UNIDO staff continued to be conducted. In the first half of 1994 four environmental awareness seminars were held. The self-instruction training course on ESID (IDB.12/2, chap. III, para. 9) was first held at Headquarters in August 1994 to the benefit of some 20 staff members. Free copies of the course were distributed to UNIDO Country Directors. 1/ The Environmental Awareness Bulletin, published monthly, also strengthens the capacity of staff to more effectively integrate environment-related elements in UNIDO activities.

139. A further way to enhance in-house capacity is the development of and access to electronic information systems such as: the Energy and Environment Information System, through which networking mechanisms continued to be established in Member States to strengthen their ability to collect, store and disseminate industrial environment and energy information; and the Referral Database on Energy and Environment (REED), the records of which totalled more than 10,000 by mid-1994.

E. Disseminating information on environmental risks associated with industrial processes and technology, and measures for protection against such risks
(GC.5/Res.6, para. 1 (e))

140. International action on the reduction of chemical risks is fairly well advanced, due to the work of the International Programme on Chemical Safety, in which UNIDO is participating, particularly in the new Intergovernmental Forum on Chemical Safety. The environmentally sound management of chemicals is also promoted in supporting cleaner production technologies and techniques both in chemical industries and processes relying on toxic chemicals; product substitution efforts in such chemical applications as pesticides; and capacity-building in chemicals risk assessment; and the handling, storage and disposal of toxic

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1/ The course is available for $250 from United Nations Publications, C. 109, CH-1211 Geneva 10, Switzerland (ISBN 92-1-106291-8, Sales No. E.94.III.E.2).

chemicals. In relevant activities account is also taken of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal and the London Guidelines for the Exchange of Information on Chemicals in International Trade.

141. The integrated international safety guidelines for pesticide formulation in developing countries, prepared in English in 1992, have been translated and are now available in French and Spanish. The Chinese Government has undertaken translation into Chinese. A workshop on pesticide data collection systems will be held at Bangkok, Thailand, in September 1994.

142. Together with the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Union of Pure and Applied Chemistry (IUPAC), UNIDO arranges training for safety and environmental protection in chemical, pharmaceutical and biotechnological research and production. The candidates are trained at IUPAC companies in Europe, Japan or the United States of America. Examples of other activities in this field are a programme on treatment of hazardous pharmaceutical industry wastes under implementation in Jordan and a project for hospital waste management in Guinea.

F. Compliance with relevant recommendations of Agenda 21 and the role of UNIDO in their implementation
(GC.5/Res.6, para. 2)

143. Agenda 21 touches upon many subjects where industry can play a direct role in achieving sustainable development. Responding to the requirements of Agenda 21, UNIDO focuses on industry-related environmental issues which need to be dealt with at subsectoral and sector-wide levels in order to identify country- and region-specific problems and solutions.

144. Since the establishment of ISED, a major effort has been to develop a leading role in the implementation of Agenda 21 as requested by the General Conference in resolution GC.5/Res.6. Therefore, by increasing its involvement in the United Nations system-wide policy dialogue on the follow-up to the United Nations Conference on Environment and Development (UNCED), the Organization expects to become engaged in both the policy-level and operational initiatives within the framework of the Commission on Sustainable Development (CSD). These activities will have a wide impact on the whole of UNIDO.

145. Thus, the Organization participated in the third and fourth sessions of the Inter-agency Committee on Sustainable Development (IACSD) (2-5 March and 14-16 June 1994) and in the second session of CSD in New York from 15 to 27 May 1994. The two IACSD meetings resulted in the recognition of the potential role of UNIDO in several areas, most notably in the fields of education science, the transfer of environmentally sound technology, biotechnology, toxic chemicals, hazardous wastes, human settlements and freshwater resources.

146. UNIDO was designated in September 1993 United Nations system Task Manager for chapter 16 of Agenda 21 on environmentally sound management of biotechnology. Task Managers, in collaboration with other relevant organizations, are to provide coordinated technical inputs on the system-wide implementation of Agenda 21 and will strengthen - and where necessary establish - the network of collaboration among the relevant organizations, developing a regular flow of information on ongoing and future activities among them. In its efforts to promote biotechnology capability-building the Organization closely cooperates with the International Centre for Genetic Engineering and Biotechnology (ICGEB), which provides advanced R and D training facilities. Priorities include microbial enhancement of oil recovery and bio-remediation technologies, bioconversion and production of biogas and conservation of bio-diversity. UNIDO also prepared a biosafety manual and established the Biosafety Information Network and Advisory Service (BINAS) (chap. I, para. 22).

147. UNIDO will be involved in the overall CSD programme related to health, human settlement and freshwater resources and it is already cooperating closely with the respective Task Managers. Support will be given in dissemination of knowledge on clean technology as a means of contributing to the prevention of man-made health problems and in the development and transfer of health-related appropriate technologies, including medical and pharmaceutical technologies. Also, since there is a clear need for UNIDO to develop an industry-related water programme and to reactivate its participation in the Administrative Committee on Coordination (ACC) Subcommittee on Water Resources, the Secretariat plans to participate in the meetings of the subcommittee. Information concerning a recent workshop on water and waste-water treatment is provided in chapter I, para. 34, above.

148. An issue which will undoubtedly occupy much attention in the work of the United Nations Conference on Trade and Development (UNCTAD), the World Trade Organization and the United Nations system as a whole, is trade, environment and sustainable development. CSD has called upon the Secretary-General to prepare an analytical study on the interrelationships between competitiveness, trade, technology and changing consumption and production patterns. UNIDO is one of the agencies required to contribute to the study.

149. Cooperation is under way with a number of United Nations agencies in the implementation of chapters 19 and 20 of Agenda 21 on toxic chemicals and hazardous waste management. Together with UNDP, UNCTAD, UNEP and the Organisation for Economic Cooperation and Development (OECD), UNIDO has been requested by CSD to participate in a stocktaking/survey of information systems on environmentally sound technologies. The objective is to identify areas of overlap, gaps, inefficiencies and remedial measures required.

150. A number of Governments in developing countries have already started preparations of national Agendas 21 and UNIDO is expected to play an important role in assisting in the preparatory and implementation stages. The first country to come up with a national Agenda 21 is China and UNIDO was invited to participate in the implementation of the programme. Following discussions at Headquarters, a UNIDO mission participated in the round-table conference on China's Agenda 21, held at Beijing, from 6 to 9 July 1994, and presented a promotional booklet "UNIDO in China".

The Organization reiterated its preparedness to assist China in all aspects of implementing the national Agenda 21 in the following areas: capacity-building for implementation of Agenda 21; cleaner production in various sectors; and effluent waste management and control.

151. UNIDO also takes part in the implementation of the various related conventions, protocols and policy instruments, such as the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the London Guidelines for the Exchange of Information on Chemicals in International Trade, the Framework Convention on Climate Change, the Convention on Biological Diversity and the Montreal Protocol demanding the phasing out of ozone-depleting substances.

G. Activities related to energy (GC.5/Res.6, para. 3)

152. The following paragraphs should be considered in conjunction with the information provided on energy-related elements of UNIDO programmes contained in chapter I.K above.

Energy efficiency in the production process and energy conservation

153. Assistance has been extended in activities ranging from improving power generation efficiency to industrial energy management. The Organization aims at introducing technologies to developing countries that require minimum energy input. Energy consumption can also be reduced by improving industrial operations management and plant maintenance.

154. An ongoing project in Nigeria is illustrative of such activities. With the ultimate aim of assisting the Government in formulating a new industrial energy management policy, the project, by providing industrial management advisory services, increases the awareness of managers and technical staff in the rational use of energy, energy conservation measures and the negative impact of inadequate fuel pricing on energy conservation.

155. A number of training programmes and projects are under way, including the group training activity in energy conservation covered in chapter I (para. 35), at Ankara, Turkey. Another, on economic evaluation of energy efficiency measures, in December 1993 at Kaunas, Lithuania, demonstrated the use of a computer program for processing energy audit results. The programme on use of energy-saving technologies in various industrial sectors in the Asian region was continued in the ceramic and cement industries, with workshops in Bangladesh and Sri Lanka in May 1994. Manuals are under preparation for technical operator use in improving plant-level energy efficiency.

New and renewable sources of energy

156. UNIDO offers advisory services to Governments and helps prepare programmes for the introduction of alternative sources of energy (such as solar energy, hydropower, wind energy, biomass), particularly in rural areas. An important step related to the transfer of technology in solar energy is the agreement of the state government of Western Australia to assist developing countries through UNIDO in promoting and developing solar energy applications. The services will be provided by the Centre for Application of Solar Energy in Perth, which will serve as a model for the establishment of similar centres in other countries. A trust fund agreement to that end was signed in February 1994.

157. Concerning technical cooperation activities, a recently completed project for the Democratic People's Republic of Korea assisted in the identification and introduction of suitable technologies for the application of new and renewable sources of energy (chap. I, para. 35). A regional project for Africa assesses the technical and economic viability of solar and wind energy applications, including the local manufacturing of equipment and accessories. Special attention is given to the impact of developing such energy sources with a view to reducing deforestation and soil erosion. A training programme on choice and adaptation of technologies for the application of new and renewable sources of energy was organized in the Republic of Korea. An ongoing project in Morocco aims at enabling the Government to take informed decisions on developing a strategy to make use of solar energy for rural areas.

Conventional sources of energy

158. UNIDO is supporting both industry and R and D organizations with the development and demonstration of technologies that offer more efficient and cleaner combustion of coal for generation of power and process steam. In China, for example, support is being provided for the installation and start-up of two 210 ton-per-hour circulating fluidized-bed boilers on the premises of an agricultural chemical manufacturer where increasing energy demand requires new installed generating capacity. At the same time, that capacity must comply with regulations controlling emissions of sulphur dioxide and nitrogen oxides. Also in China, local scientists and engineers are being assisted to develop hot gas desulphurization technology for application in integrated gasification combined cycle systems. A pilot facility is under construction to demonstrate this central component of the system, which has the potential to significantly increase efficiencies and reduce emissions from coal-based power generation.

159. UNIDO is an active member of the steering committee of an inter-agency project on databases and methodologies for comparative assessment of different energy sources for electricity generation (DECADES). As one of the organizers of the Symposium on Electricity, Health and the Environment to be convened at Stockholm, Sweden, in October 1995, UNIDO is playing an active role in preparatory activities in the programme committee for the Symposium.

160. UNIDO participated in the tenth session of the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change at Geneva in August 1994. The work of the Organization in supporting the efforts of developing countries to improve industrial energy efficiency, to introduce new and renewable energy resources and to improve the efficiency of fossil fuel-based power generation can be considered as contributing to mitigation strategies which address greenhouse gas emissions. UNIDO seeks to play a more active role

in the future in helping developing countries meet their obligations under the Framework Convention on Climate Change.

VI. INDUSTRIAL INVESTMENT PROMOTION

161. The present chapter is submitted in response to the request of the General Conference as contained in resolution GC.5/Res.7, and is organized to correspond to the relevant subparagraphs in that resolution.

A. Volume of industrial investment promotion activities (GC.5/Res.7, para. 2 (a))

162. In 1993 the technical cooperation component of the Industrial Investment Division totalled $19.6 million, or 16.5 per cent of UNIDO expenditure on technical cooperation activities. While it is still too early to draw conclusions for 1994, preliminary mid-year figures indicate that the share of the Investment Service in total UNIDO technical cooperation delivery may be at a similar level. Relevant activities within that programme focus primarily on:

(a) Improvement of financial and fiscal regulations and legal framework conducive to private investment in industry;

(b) Assistance in establishing or improving the operations of investment promotion agencies, offices or similar institutions;

(c) Carrying out training in UNIDO-developed investment methodologies, preparation of prefeasibility and feasibility studies.

163. Target countries are those with private investment potential. The number of countries served is large; for example, in Africa alone the Investment Service is actively working in more than 25 countries. While the investment potential of LDCs is relatively low, UNIDO industrial investment assistance was recently rendered to the following LDCs: Benin, Burkina Faso, Eritrea, Ethiopia, Lao People's Democratic Republic, Madagascar, Maldives, Nepal, Uganda and Zambia. An increase of services has been recorded in general, but in particular from countries with economies in transition.

164. The established network of Investment Promotion Service (IPS) offices continues to call for increased attention. Sixteen requests have been received for new IPS offices in either industrialized or developing countries. These countries are Algeria, Bahrain, Egypt, India, the Islamic Republic of Iran, Lithuania, Pakistan, Portugal, Romania, Saudi Arabia, South Africa, Spain, Tunisia, Turkey, Ukraine and Uzbekistan. UNIDO is exploring the financial and other modalities by which such offices may be established and effectively managed (see para. 181 below). A new development relates to the ongoing negotiations aimed at conversion of the UNIDO Industrial Cooperation Centres in Beijing and Moscow into full-fledged IPS offices. The number of participants in the delegates' programme, operated by the IPS offices, is also increasing. The attractiveness of investment promotion forums as a tool to identify foreign private investors and provide a platform for a dialogue between foreign and local investment partners has led to an increased number of requests for the convening of such forums, particularly from countries with economies in transition as well as some Asian countries.

B. Regional investment promotion activities (GC.5/Res.7, para. 2 (b))

165. Efforts to develop regional investment promotion activities and to mobilize resources for their implementation, which feature a large degree of cooperation with regional organizations, are undertaken in a variety of ways. In Africa, 176 projects were prepared and discussed for the investors forum conducted at Lusaka, Zambia, in January 1994 for the Preferential Trade Area for Eastern and Southern African States (PTA), which yielded 14 preliminary cooperation agreements signed during the forum as well as subsequent additional agreements.

166. In Asia and the Pacific, a regional investment promotion programme for the Mekong River region is under discussion between UNIDO and the United Nations Development Programme (UNDP) at the request of Cambodia, China, Myanmar, the Lao People's Democratic Republic, Thailand and Viet Nam. Discussions are under way with a potential donor concerning the financing of this programme. Proposals are also being elaborated for investment and trade promotion projects in the Tumen River region as part of a regional industrial development programme requested by China and the Democratic People's Republic of Korea. The cooperation of the new World Trade Organization is being sought in this respect.

167. Regional activities for the current biennium in Latin America and the Caribbean are expected to focus on an investment forum for the MERCOSUR (Common Market of the Southern Cone) countries, for which discussions are under way with the Latin American Integration Association (ALADI).

168. An investors forum conducted in June 1994 in Vienna for selected republic and regions within the Russian Federation focused on a number of industrial subsectors. The forum was financed from extrabudgetary sources mobilized under special trust fund arrangements.

C. Industrial investment information and data (GC.5/Res.7, para. 2 (c))

169. With the aim of strengthening the flow of information and data on industrial investment between industrial and financial sectors of developed and developing countries, UNIDO is currently installing the World Investment Network Service (WINS) (IDB.12/2, chap. IV, para. 20), which will link IPS offices with national focal points in developing countries. The ultimate aim is the diffusion by the Network, via electronic mail, of information from developing countries including data on individual industrial proposals, changes in investment legislation and on the investment climate in the developing countries. The on-line confidential reporting of ongoing negotiations in the various IPS offices will assist Headquarters in monitoring the effectiveness of the operation. Five IPS offices (Athens, Paris, Seoul, Tokyo and Washington) have been connected with Headquarters to date.

D. Cooperation with international and financial institutions
(GC.5/Res.7, para. 2 (d))

170. As reflected in earlier reports to policy-making organs (cf. GC.5/10-IDB.11/11, paras. 167-168) close contact and cooperation with other institutions, in particular the World Bank and regional development banks, have always featured prominently in the implementation of the UNIDO industrial investment programme. Cooperation has also been sought with various other banks, funds, corporations and industrial development institutions. In addition to participating in investors forums, banking institutions are also involved in the preparation for and follow-up to the forums.

171. Benefit from this cooperation accrues to investors at different levels:

(a) Support through general and specific information on financing problems;

(b) Assistance to participants from industrialized and developing countries directly from bank representatives on conditions and options for obtaining loans. On-the-spot consultations with resource persons can take place between the partners during negotiations;

(c) Assistance by IPS offices through the evaluation of joint venture agreements, using the project completion facility designed to facilitate co-financing before project implementation. An analysis is performed using the UNIDO Manual for the Preparation of Industrial Feasibility Studies (ID/372) and the UNIDO Computer Model for Feasibility Analysis and Reporting (COMFAR), which facilitates access of the joint venture partners to available credit lines since both COMFAR and the Manual are recognized by all major financial institutions. A number of investment projects in Asian and Latin American countries as well as countries with economies in transition have already been introduced to the International Finance Corporation, the Inter-American Development Bank, the European Bank for Reconstruction and Development, the and Asian Finance and Investment Corporation.

E. IPS delegates' programme
(GC.5/Res.7, para. 2 (e))

172. The number of participants in the delegates' programme is rising. In 1992, 26 delegates took part in the programme, whereas in 1993 there were 37. The number of delegates from Asia and the Pacific doubled during these years, as did the number of delegates from Latin America and the Caribbean. A delegate, who normally is detached from a national investment agency or bank, can be seen to represent its investment interests in the IPS office. The role of the delegate is to support investment negotiations, follow up investment forums and specifically promote the portfolio of investment projects from the home country into the host country, relaying on a continuous basis with a national counterpart to facilitate the conclusion of the negotiations and implementation of the joint venture.

173. In order to improve the programme of assistance rendered to the delegates, efforts are under way to extend the period spent in the host country. This is particularly noticeable in the case of the Tokyo IPS office, which has introduced a shuttle programme. Under the programme, the delegate returns to Japan for a second and possibly a third period, primarily to follow up the initial introduction of investment opportunities to potential Japanese investors.

174. The delegates' programme is funded from a variety of sources, including government and other bodies in developed and developing countries as well as UNDP. An innovative trend has been introduced recently to finance delegates through the private sector, resulting to date in the partial financing of one delegate in the Paris office by a private sector organization in his country. In addition to endeavouring to expand financing through traditional sources, UNIDO has placed great emphasis to include relevant funds in follow-up projects to investment forums. In this manner, follow-up projects for Invesmart in India and the Madagascar International Industrial Forum will provide financial support to four delegates each.

F. Mobilization of extrabudgetary resources for investment promotion programmes for countries with economies in transition
(GC.5/Res.7, para. 2 (f))

175. A number of countries with economies in transition have requested UNIDO assistance in enhancing the inflow of investment funds from developed countries. The UNIDO IPS in Warsaw has been particularly successful in mobilizing additional extrabudgetary resources to support investment promotion programmes, exemplified by the Danish matchmaking facility for Scandinavian and Polish enterprises. The purpose of the facility is to improve the economic situation of 15 Polish enterprises in the sector of agricultural machinery production, partially through joint venture agreements with partners in Scandinavian countries. This will be undertaken through restructuring and the introduction of modern technology, improvement of earning capacity and export returns. This programme is supported by the Polish and Danish Governments. A second example is the successful effort aimed at improving the financial situation of a group of nine Polish companies included in the restructuring programme sponsored by the United Kingdom Know-How Fund. As a result of the diagnosis and rehabilitation assessment of financial and cost accounting systems of these enterprises performed by specialized British firms, new bookkeeping systems have been introduced offering dynamic management and rationalization of financial decision-making. The Warsaw office has also cooperated with major financial institutions, including the World Bank, in the organization of investment promotion events, and with the European Bank of Reconstruction and Development in individual investment opportunity financing.

176. Of the 16 requests received for new IPS offices (cf. para. 164 above), four are from countries with economies in transition (Lithuania, Romania, Ukraine, Uzbekistan). Financial and other modalities for their establishment are now being explored. As mentioned in paragraph 164 above, negotiations are under way to operate the UNIDO Industrial Cooperation Centre in Moscow as a fully fledged Investment Promotion Service. This would assist the Centre in introducing UNIDO industrial investment methodology and ensure a closer linkage with other offices in the network.

177. As mentioned in paragraph 168 above, extra-budgetary resources were mobilized for the investors forum for selected regions of the Russian Federation.

G. Ways and means of enhancing the efficiency, effectiveness and impact of the programme (GC.5/Res.7, para. 3)

178. In carrying out the industrial investment promotion programme, a constant review process enables substantive staff to identify opportunities for enhancing the efficiency, effectiveness and impact of the programme. In this process due regard is paid to the recommendations of the in-depth evaluation and to relevant decisions of the policy-making organs. A recent example of a revised approach to the coverage of countries in investors forums is that adopted following the PTA Forum at Lusaka, Zambia, in January 1994 (para. 165 above). In order to maximize the participation of national project sponsors, coverage will be limited to three to five neighbouring countries for future forums in African subregions, providing foreign visitors with the required local contacts.

179. Internal working methods and procedures have been reviewed and streamlined in line with the recommendations of the in-depth evaluation report: a single investment project profile form, allowing the presentation of a more complete profile of a local sponsor and a set of project data validated by PROPSPIN (Project Profile Screening and Pre-appraisal Information System), has been introduced; more stringent criteria have been adopted to report on joint ventures for which negotiations have been concluded; guidelines to streamline the preparation, organization and follow-up of Investmarts have been finalized; reporting procedures for successfully concluded investment projects under fixed criteria and periodicity have been agreed; the format for the annual work programme of IPS offices and the procedure for its approval have been standardized.

180. The effectiveness of the delegates' programme is also being enhanced, both by efforts to extend stays in the host country and by innovations in the financing of delegates from the private sector (paras. 173 and 174 above).

181. In view of the numerous requests from Member States for IPS offices, a separate document is under preparation on new modalities which would facilitate the establishment and improve the management of such offices and will be submitted to the Board as soon as available.

VII. INTEGRATION OF WOMEN IN INDUSTRIAL DEVELOPMENT

182. In response to General Conference resolution GC.5/Res.11, the present chapter provides information on how gender considerations are integrated into all activities of UNIDO and how the implementation of the relevant programme is enhanced; on UNIDO contributions to the preparations for the Fourth World Conference on Women: Action for Equality, Development and Peace, to be held at Beijing, China, in 1995; and on securing the necessary funds for the implementation of the programmes and plan of action for the integration of women in industrial development.

A. Integration of gender considerations into all UNIDO activities and enhancement of the implementation of the programme and plan of action for the integration of women in industrial development (GC.5/Res.11, para. 1 (a))

183. The integration of gender considerations in all UNIDO activities and the enhancement of the implementation of the Programme and Plan of Action (cf. GC.5/Res.11, para. 1 (a)) continued and were reflected in the new terms of reference and work programme of the Organization as well as in the revised draft medium-term plan, 1996-2001 (IDB.13/19). In keeping with UNIDO strategy, activities to mainstream women into all UNIDO activities were pursued while those specifically targeting women continued to be developed and implemented with the aim of removing specific constraints that impede women from participating fully in the mainstream of development. To back up those efforts, supporting activities and services were provided through dissemination of information and the provision of specialized expertise, directives and guidelines.

184. The integration of women in development represented one of the common features shared by four projects in Senegal, Uganda and Zambia evaluated in depth by UNIDO. The evaluation concluded, inter alia, that in such projects the socio-cultural dimension outweighs by far the techno-economic challenges and that a more effective way of enhancing the profile of women and of contributing to their integration is to cooperate with women's groups such as non-governmental organizations (NGOs) or rural development organizations to channel technical support. To measure the true extent of women's participation requires an in-depth social and prior socio-economic analysis in the preparatory phase to investigate the income allocation mechanism across genders in the society in respect of the target beneficiaries to ensure that women actually benefit from their additional income.

185. To enhance the consideration of gender aspects in the design of UNIDO services and programmes, the new guidelines for the management of UNIDO services (UNIDO/DG/B.177) have made it a prerequisite at the pre-screening stage to assess the extent to which gender issues have been considered and to evaluate the impact of the services proposed on women. This is a further step forward towards including gender issues in the concept of overall quality assurance advocated by UNIDO and is in line with the directives and guidelines contained in the reference file for the consideration of women in project design, management and evaluation.

186. Training materials for in-house gender sensitization and awareness training seminars were developed and will be tested with a core group of staff to ensure further and wider dissemination to other colleagues both at Headquarters and in the field. These activities were supported through funding from Norway. In addition, the database on women in industry, which includes both a bibliographical collection and a series of country information notes, is regularly updated.

187. Despite a slow-down in programming activities during the latter part of 1993 and the first half

of 1994, gender considerations were integrated in recommendations and follow-up of country programming and project formulation missions. This was accomplished through such measures as the attachment of a national women-in-development expert to a project in Mozambique for the formulation of a long-term development strategy of the manufacturing sector of the country and the provision of inputs to a report on the integration of women in the agro-food processing industry prepared for the International Donors' Conference on Human Resources Development for a Post Apartheid South Africa held at Johannesburg, South Africa, in June 1994. Furthermore, as a follow-up to the attachment of women-in-development experts to country programming and needs assessment missions, specific proposals were developed for Ghana, Sierra Leone and the United Republic of Tanzania. In Viet Nam, a project developed to provide assistance in placer gold extraction will particularly benefit women, who constitute a large proportion of the artisanal miners concerned. In Europe, ongoing preparatory activities are expected to generate projects benefiting women in Bosnia and Herzegovina, Croatia and Slovenia.

188. At the request of UNDP and together with a team from the International Centre for Advanced Technical and Vocational Training of the International Labour Organisation at Turin, Italy, UNIDO contributed to the preparation of a strategy paper for the development of women entrepreneurship and its implementation modalities for Mauritius as part of the activities foreseen under a UNIDO-executed project. In Bangladesh, a study on rural industrialization financed under technical support services at the programme level (TSS-1) will focus strongly on gender issues, in particular for the implementation of pilot projects to be derived from the study. In Malawi, the regional Africa leather project (IDB.12/2, chap. V, para. 25) organized a gender seminar on women in the leather and leather products industry in the 10 countries of Eastern and Southern Africa covered by the project. The project also promoted the participation of African women entrepreneurs in the leather sector in a training course designed to upgrade their skills held at the Leather Institute at Madras, India. In Ethiopia, UNIDO completed the installation of a new marble-processing factory financed by the Government of Italy. The achievements of the project demonstrated the possibility of integrating women not only by training female machine operators but through a female production manager.

189. Programmes specifically targeting women were consolidated and further developed. As a spin-off of the technical review of the project of assistance to Jua Kali women in Kenya in the manufacturing of textiles and related products (ibid., chap. III, para. 23), a thematic programme approach was developed on women entrepreneurs for industrial growth in selected subsectors. Following this approach, projects have been developed in Uganda and the United Republic of Tanzania, and a follow-up project in Kenya is under consideration to include additional subsectors. Needs assessment missions have been requested by Ghana and Sierra Leone. Furthermore, the programme approach has been transmitted to various UNIDO donors and interest has been expressed by some of them on the approach itself or on specific projects.

190. In the area of human resource development and training, emphasis continued to be placed on strengthening the entrepreneurial capabilities of women, such as the training programme to promote the participation of women in the modernization process of China. The UNIDO training programme for women entrepreneurs in the food-processing industry is under implementation in the United Republic of Tanzania and in the countries of Central America and is actively promoted in other countries through the services of an interregional adviser on training needs of women entrepreneurs. A needs assessment mission for the introduction of the training programme was undertaken in Kenya, requests for the programme have been received from Myanmar, Namibia and Sierra Leone, and adaptation of the training manual is under consideration for use in Asia where it would be introduced in Viet Nam. The manual, already available in French and English, has been translated into Spanish for further promotion and dissemination in Latin America. A version for illiterate women is under preparation.

191. In the field of transfer of technology, the project on the development and dissemination of appropriate cereal-processing equipment for rural women in sub-Saharan Africa (ibid., para. 85), is making headway in Burkina Faso and Mali, with co-financing from the International Fund for Agricultural Development. In Nepal, a project is under way to advise an association of female craft producers on technologies and facilities for the treatment of effluents, particularly in the dyeing and printing process.

192. A number of activities were developed to facilitate access by women to credit-providing facilities and to train them in industrial project preparation and appraisal. In India, two sessions provided training to more than 40 women entrepreneurs and trainers from 15 African and Asian developing countries. The training comprised entrepreneurship development and industrial project identification, investment, decision-making, planning and implementation of growth strategies. A workshop on UNIDO investment promotion methodology and application of pre-investment financial analysis (PROPSPIN) was held for women entrepreneurs in Argentina in 1993. An international furniture expert was fielded to Sierra Leone to assist in designing an income-generating skill programme for women. A regional workshop for women entrepreneurs from the MERCOSUR (Common Market of the Southern Cone) countries, Bolivia and Chile, focusing on pre-investment financial analysis, is planned for November 1994 in Argentina, while in Guinea a preparatory assistance project has been approved for the promotion of women entrepreneurs by providing access to credit facilities and investment expertise.

193. As described in the proposals for the revised draft medium-term plan, 1996-2001 (IDB.13/19), one important aspect of UNIDO intervention is the provision of policy advice to policy and decision makers with a view to creating an enabling policy environment. In Togo, a TSS-1 study was carried out to develop a strategy for the integration of women in the industrial development of the country. Specific measures and plans of action were formulated and proposed to the Government and discussed with the community of donors in the country. A desk study on the training needs of professional women in Africa was undertaken through the sending of comprehensive questionnaires to women

professionals in 26 African countries. The findings of the responses received were analysed and will form the basis for appropriate training programmes.

B. Preparations for the Fourth World Conference on Women, Beijing, September 1995 (GC.5/Res.11, para. 1 (b))

194. The UNIDO strategy for the World Conference will focus on the contribution of industrialization for women and on ensuring that relevant measures and actions are endorsed and included in the platform for action expected to emanate from the World Conference, with the aim of strengthening the UNIDO mandate to pursue related activities and providing renewed recognition on the international scene. To enhance the impact of the preparatory activities, additional substantive and conceptional work is being actively pursued under the guidance of an internal task force established for that purpose. The importance ascribed to the coordination of inputs to the Conference reflects the fact that this activity constitutes one of the entry points for UNIDO to participate in the global discussions on the overwhelming concerns related to poverty alleviation, food security and sustainable development.

195. The findings of the five regional typology studies currently being undertaken in cooperation with the regional economic commissions (GC.5/10-IDB.11/11, para. 90) will provide the major inputs to in-depth analyses used for the drafting of regional strategies and plans of action for sub-regional groups of countries that share similar patterns of participation of women in manufacturing. Thus the operational chapter of each study that contains proposed strategies is seen as an excellent means of opening a dialogue with countries and organizations on the implementation of the action plans and the development of concrete integrated programmes for the advancement of women. In addition, the typology study exercise constitutes the creation of a systematic comparative database on women in industry. While this database, together with a user's manual, will continue to be maintained by UNIDO, it will also be transferred for further updating to the regional commissions and should become an important instrument for future editions of the World Survey on the Role of Women. The contribution of UNIDO in establishing such a database is seen as filling an obvious gap in the collection of gender-sensitive data and in complementing other statistical sources available in the United Nations system. It would also contribute to reinforcing the lead role taken by UNIDO in the collection of gender segregated statistical data related to industry.

196. Financing for the regional studies was secured during the first months of 1994. The first - Asia and the Pacific - was completed and the report was presented at the Second Asian and Pacific Ministerial Conference on Women in Development, held at Jakarta, Indonesia, from 7 to 11 June 1994, with the active participation of UNIDO staff. Sustained efforts are being made to accelerate the finalization of the other regional studies, which are currently under preparation. The reports of all the studies will be presented at the respective regional conferences on women in development, in which a UNIDO staff member will participate.

197. UNIDO organized a regional expert group meeting on women in the food-processing industry held at Arusha, United Republic of Tanzania, in January 1994, which was attended by 31 participants. The recommendations adopted underlined the following six areas of intervention as being particularly crucial for the promotion of women in the food-processing sector in Africa, where women traditionally carry out 80 per cent of agricultural production, food processing and preservation: information and communication, training, development and use of technology, finance and credit, marketing and safety of products and infrastructure. The recommendations were transmitted to the Economic Commission for Africa as an additional UNIDO input for the preparation of the regional platform for action to be adopted at the African regional preparatory meeting for the World Conference, at Dakar, Senegal, in November 1994.

198. UNIDO places great importance on maintaining close contact with NGOs and participated in the Economic and Social Commission for Asia and Pacific's Asian and Pacific symposium of non-governmental organizations on women in development, held at Manila, Philippines, in November 1993. An expert group meeting on women entrepreneurs in sustainable economic development will be held in October 1994 at Yokohama, Japan, jointly with the Yokohama Women's Association for Communication and Networking. The focus of the meeting is to learn from the successful experience of leading women entrepreneurs from the region and to propose measures for increasing capacity-building for women entrepreneurs and for providing support services. Apart from representing an additional contribution to the preparation of the World Conference, the outcome of the meeting will serve as a basis for UNIDO to further develop integrated skill training programmes for women entrepreneurs in Asia. Furthermore, identification of resources is being actively pursued for UNIDO participation in the 1995 NGO Forum which will be held concurrently with the World Conference. Participation would be in the form of a booth to promote UNIDO activities and to show examples of women's involvement in manufacturing activities based on successful UNIDO projects.

199. Specific inputs are being provided by UNIDO to the Secretariat of the World Conference for the preparation of the basic documentation for the Conference, inter alia, for the report on the monitoring and appraisal of the implementation of the Nairobi Forward-looking Strategies and the progress reports of the Secretary-General on Conference preparations. For the World Survey on the Role of Women, the UNIDO global typology study (GC.5/10-IDB.11/11, para. 82) was considered a particularly relevant input. UNIDO has been represented and has participated actively in several inter-agency meetings as well as in the thirty-eighth session of the Commission on the Status of Women.

200. At the national level, UNIDO was requested by a few countries - mainly in Africa - to assist in national preparations for the World Conference. Responses are made on an ad hoc basis, taking into account available resources. UNIDO Country Directors and Junior Professional Officers are being urged to maintain close contact with national committees established for the purpose of

preparing contributions to the World Conference and with the national machineries for the advancement of women.

C. Financing
(GC.5/Res.11, para. 1 (c))

201. Funds for the implementation of the programmes and plan of action for the integration of women in industrial development continued to be secured from a variety of sources. Activities for preparation of the contribution of UNIDO to the Fourth World Conference on Women (cf. GC.5/Res.11 and IDB.11/Dec.17) were supported by financial contributions provided by the Governments of Japan and the Netherlands, by the UNIDO Regular Programme of Technical Cooperation and by UNDP. Thus, the financing for the five regional typology studies (paras. 195-196 above) was secured from special-purpose contributions from the Netherlands for Africa and for Latin America and the Caribbean, Japan for Asia and the Pacific, UNDP for West Asia and the UNIDO Regular Programme of Technical Cooperation for Europe. The Governments of Germany, the Netherlands and Norway continued to strongly support activities to mainstream women in the development process within the context of UNIDO technical cooperation, studies and research programmes. Relevant projects, including those specifically targeting women, were supported mainly through funding from the Governments of Austria, Germany, Japan and Switzerland as well as from the UNIDO Regular Programme of Technical Cooperation and the programme of the Second Industrial Development Decade for Africa. Additional donors have expressed strong interest in financing a variety of projects for the advancement of women.

D. Concluding remarks

202. Among the elements to be considered in assessing the activities described above are the relevance of the subject to the five development objectives of UNIDO and the capacity of UNIDO, in terms of financial, technical and human resources, to implement the programme activities. With regard to the first element, activities related to the integration of women in industrial development are, by essence, of a cross-sectoral nature. Unless and until women are fully recognized as agents of change and actors in the development process in their own right, impact and visibility will not be achieved. The relevance of the approach - mainstreaming and targeting - to achieve this objective therefore remains pertinent and the strong linkage with the UNIDO development objectives becomes evident. In respect of the development objective related to environmental considerations, various international forums have emphasized the need to address gender disparities to achieve sustainable development, most notably Principle 20 of the Rio Declaration on Environment and Development as well as chapter 24 of Agenda 21. Finally, in respect of the second element, the delivery capacity of UNIDO will be enhanced if it develops its comparative advantage vis-à-vis other organizations by uplifting its interventions for women at the sub-sector level, rather than at the general and generic level. The interest of recipient countries and of donors alike in a number of specific UNIDO programmes as mentioned in paragraph 201 above has demonstrated the need for the development of additional thematic programmes and the usefulness of upstream activities.

203. In acknowledging that the issue of integration of women in industrial development constitutes a priority cross-sectoral theme, a significant step forward in integrating the issue into all UNIDO activities has been achieved. A thematic priority paper on the subject was prepared in which a proposal is made to focus activities in four selected priority areas that correspond simultaneously to other cross-sectoral and sectoral priority themes, thereby maximizing impact and visibility. The four selected areas are human resource development and capacity building for women, support to women entrepreneurs in small and medium enterprises and micro-enterprises, transfer and development of appropriate technologies, and environment and energy.

204. The development of instruments for institutionalizing gender issues into all activities of UNIDO remains an indispensable element of UNIDO strategy. The reference file on the consideration of women in project design, management and evaluation will require further updating to conform with the newly approved concept of quality assurance and the requirements of the services management process guidelines. The gender sensitization seminars for UNIDO headquarters and field staff will be essential to complement the process.

VIII. INDUSTRIALIZATION OF THE LEAST DEVELOPED COUNTRIES IN THE 1990s

205. As requested by the General Conference in resolution GC.5/Res.16, the following paragraphs contain information on the continued priority accorded by the Director-General to the least developed countries (LDC) programme and the measures taken to implement the conclusions and recommendations of the Second Ministerial Symposium on the Industrialization of the Least Developed Countries. Recent UNIDO efforts have focused on responding to priority areas identified in the Industrial Action Programme for the Least Developed Countries (PI/114) and reiterated in subsequent mandates, including General Conference resolution GC.5/Res.16 and Board decision IDB.12/Dec.6. As reported in document IDB.12/6, paragraph 4, within the framework of the overall revitalization of UNIDO and its prioritization and structural reform, priority is being given in the Secretariat to specific sectors and activities which are essential for the industrialization of the LDCs.

206. In support to the 47 countries designated as LDCs, there are at present 164 technical cooperation projects under implementation totalling approximately $54 million. Of that value, about 77 per cent are in Africa, 16 per cent in Asia and the Pacific, about 5 per cent in Arab countries, and around 2 per cent in Latin America.

207. UNDP resources remain the major source of funding for UNIDO-implemented LDC activities, accounting for approximately 70 per cent of the cumulative volume of ongoing projects, while the Industrial Development Fund accounts for 16 per cent, followed by the regular budget with 5 per cent. The remaining 9 per cent is financed from the Special Industrial Services programme and other sources of funds.

208. In the area of mobilizing financial resources for industrial development and exploring investment promotion capabilities, assistance has been provided to Guinea, Madagascar, Mali and Nepal.

The Investment Promotion Centre in Sudan was strengthened in performing its investment advisory functions and promotion services. The second phase of a project on mobilization of investment resources for small and medium enterprises and industries in Burkina Faso, Guinea, Guinea-Bissau and Mali is expected to be approved shortly for implementation to commence before the end of 1994.

209. UNIDO assisted in establishing an investment promotion centre in Zambia which is now operational with an optimal organizational structure in place. In the United Republic of Tanzania, assistance to the Investment Promotion Centre included the provision of expert advice and training staff in priority subsectors and identifying investment opportunities for promotion. An Industrial Development Fund (IDF) project under implementation with financing from India involves a diagnostic study of the needs and requirements of the Investment Office of Ethiopia. In Togo, in early 1994 a three-year programme was completed of two UNDP-financed projects for assistance to industrial enterprises in their restructuring and pre-investment activities. Under a global project a feasibility study was completed for a dairy-processing plant in Gambia. A subregional project is also under implementation benefiting the Central African Republic, Chad and Equatorial Guinea.

210. A subregional workshop was organized and conducted to assess the impact of the devaluation of the CFA (African Financial Community) franc on the manufacturing sector of the West African Monetary Union held at Bamako, Mali, in June 1994. A similar workshop is planned for early 1995 for countries of the Central African subregion.

211. Efforts have been made to secure funding for projects aimed at processing basic raw materials for the benefit of a number of LDCs, e.g. a techno-economic study for the installation of a small Kenaf-based paper unit in Mali. A potential donor expressed interest in developing the project into a subregional one, which would extend to Burkina Faso and Guinea. The same potential donor is also interested in contributing to the regional Africa hides and skins, leather and leather products improvement scheme for East and Southern Africa (IDB.12/2, chap. V, para. 25) and in developing a similar scheme for West Africa, where 13 LDCs are located.

212. Cooperation with financing institutions has continued to take place at different levels for activities undertaken for LDCs. For example, close contacts and active cooperation with the World Bank, African Development Bank and Asian Development Bank have become a standard feature in both regional and national investors forums, as well as in related follow-up activities. A recent example is the investors forum at Lusaka, Zambia, in January 1994 for the Preferential Trade Area for Eastern and Southern African States. Additional information on cooperation with financing institutions is provided in chapter VI of the present document.

213. In private sector development and privatization, UNIDO supported a project under national execution in Mali to formulate a policy favourable for encouraging private sector enterprises. Support was also extended to the Ministry of Industry of Ethiopia in hosting the Seventh International Conference of the World Assembly of Small and Medium Enterprises. In Mauritania, assistance has been provided to improve the efficiency of existing activities and to promoters in the formulation and evaluation of their projects. Through a World Bank credit-funded project, assistance was provided to support the privatization of State-owned enterprises in Sudan. Further to the 1993 workshop on privatization policy, strategy and practice for English-speaking African countries, a similar workshop was conducted in June 1994 for French- and Portuguese-speaking African countries. Held in Guinea-Bissau, the workshop brought together senior public enterprise managers, policy makers and prominent scholars to share experience, learn strategic skills and assess how privatization techniques may be used to help LDCs achieve faster economic progress. At the same time in June 1994, a programming mission to Guinea-Bissau identified five technical cooperation projects which are now at different stages in the development/approval pipeline.

214. As a follow-up to the Second Ministerial Symposium on the Industrialization of the LDCs, a project document has been elaborated to conduct and organize a ministerial meeting on private sector development to be held in Nepal. Its aim is to strengthen three key industrial development issues for the LDCs in the 1990s: private sector development, competitiveness of industrial enterprises, and privatization. Participation of 21 Ministers of Industry from selected LDCs is foreseen, as well as representatives of the World Bank, the African and Asian Development Banks and the International Monetary Fund.

215. Priority has been given to the development of small and medium enterprises (SMEs) in LDCs in view of the great potential offered by these industries in building up a broader and more resilient base for industrialization and their overall contribution to long-term social and economic progress. In line with the emphasis placed by LDCs on SMEs, UNIDO has strengthened and expanded its activities in that area. Notably assistance to LDCs accounts for 64 per cent of all projects carried out by the Small and Medium Enterprises Branch. An internal UNIDO paper on the challenges and opportunities for SMEs in LDCs and the UNIDO programme in SME development is available with the UNIDO Secretariat.

216. In Guinea, phase I of a UNDP-funded project on SME development in the provinces has produced encouraging results, featuring financing the creation of 38 enterprises. Similar integrated projects are ongoing in other African and Asian LDCs. In Zaire, the strategy focuses on building up the capabilities of local consulting firms in Kinshasa and Bukavu to provide services to SMEs and of local savings and credit cooperatives to lend to SMEs. In Ethiopia a training workshop was conducted in cooperation with the Ministry of Industry to familiarize 30 industrial bureau officers with various aspects of local industrial promotion issues based on market mechanisms and decentralized administration. A programme was formulated to assist the provincial offices of the Mozambique National Institute for Local Industry Development in Niassa and Cabo Delgado. Capacity has been established within the Ministry of Commerce, Employment and Trade of the Solomon Islands to provide assistance to develop small-scale industries. Benin and the Lao People's Democratic Republic were assisted in the

formulation of a national programme framework for private sector development with focus on SMEs. In Burkina Faso, preparatory assistance will help to create the first association of SME entrepreneurs and to establish an efficient network of services responding to the real needs of SMEs; a large-scale programme for SME creation and support is to start in September 1994 with services ranging from the preparation of bankable investment projects to adaptation of technology.

217. UNIDO assistance to LDCs in the areas of human resources and development of national capabilities focused primarily on upgrading capabilities of nationals at all levels (i.e. management, artisans, entrepreneurs) by conducting training and fellowships programmes, study tours and workshops. Such programmes were undertaken in Burundi, Cape Verde, Madagascar, Niger, Uganda and the United Republic of Tanzania. Similar training programmes have been promoted in other countries in Africa (Burkina Faso, Ethiopia, Madagascar, Malawi, Uganda) and also in Asia (Bhutan, Myanmar, Nepal). A training programme for women entrepreneurs in the food-processing sector is under implementation in Gambia. In Sudan, a project financed by the United Nations Population Fund provides assistance to rural women in 24 villages in the Shendi area. In order to upgrade and update essential oil know-how, including processing and quality assurance aspects, four scientists from Bhutan were trained in the United Kingdom of Great Britain and Northern Ireland. The "seed" programme in West Africa for the promotion of traditional textiles (ibid., chap. III, para. 41) progressed towards its objective of drawing up a viable regional-level long-range plan of action. A tissuthèque aimed at the reactivation of the cultural and traditional textile industry in West African LDCs will be established in Mali.

218. UNIDO is assisting Bhutan, Mali, Nepal and Zambia in building institutional capabilities within the Ministries of Industry for industrial planning, formulation and implementation of industry-related environmental policies. Assistance to Nepal is strengthening the capability of the Federation of Nepalese Chambers of Commerce and Industry to provide information to the private sector business community, to assist its members in enhancing exports and joint ventures and to provide selected training. UNIDO assisted Bangladesh and Uganda in enforcing standardization, quality control and national testing.

219. An accounting plan introduced with UNIDO assistance for industrial enterprises in Sao Tome and Principe will be followed up by a new project designed to provide plant-level support in adapting to the requirements of the new plan. An industrial development project is being carried out in Ethiopia for developing plant-level operational systems in order to improve enterprise performance. In the United Republic of Tanzania, the government economic recovery programme places emphasis on rehabilitation of the industrial sector with UNIDO assistance.

220. Environmental protection and resource conservation are also important factors associated with the industrialization of LDCs. In line with the recommendations of the UNIDO Conference on Ecologically Sustainable Industrial Development, UNIDO is assisting Nepal in building institutional capabilities within the Ministry of Industry for the formulation and implementation of industry-related environmental policies, pollution control plans and programmes. Assistance provided to the essential oil industry in the United Republic of Tanzania will also contribute to the reduction of environmental pollution.

221. In the field of industrial information, assistance was provided to Guinea, Madagascar, Malawi, Sierra Leone and Sudan in the establishment of a national industrial statistics programme for elaborating a reliable database to facilitate the provision of information services to industrial enterprises. Similar projects are in the pipeline for other LDCs such as Burundi, Rwanda, the United Republic of Tanzania and Zambia. Furthermore, a data bank will be developed to provide information on socio-economic, economic and financial indicators for each of the 47 LDCs. It will include data on respective government strategies, policies, and objectives for the 1990s.

222. Assistance to LDCs continues to be the centrepiece of the Special Programme for the Industrial Development of Asia and the Pacific. The emerging trend in UNIDO services to LDCs of the region relates to up-front activities such as studies resulting in concrete policy and strategy recommendations. Such studies include rural industrialization for employment generation in Bangladesh and industrial policy options in Western Samoa (both financed from technical support services at the programme level), and a review of the building and construction materials industry in Bhutan. UNIDO obtained donor commitments for the establishment of model and demonstration tannery effluent treatment facilities in Nepal, revival of traditional roof tile manufacturing in Lao People's Democratic Republic and the manufacturing of bicycle tyres in Cambodia. Within the framework of the Special Programme for the Industrial Development of Asia and the Pacific, UNIDO continued to target all specially-allocated resources to the agro-related metalworking and food-processing industries in the LDCs of the region (GC.5/17, para. 25).

223. Concerning the industrialization of the least developed countries, the issue at hand for UNIDO today is to make a renewed effort to find the best way and means of applying its operational instruments and limited resources in the most effective manner to the benefit of the LDCs, and to play a catalytic role in those priority areas identified in the Industrial Action Programme for the Least Development Countries for the 1990s.